

# Apple2000

THE NATIONAL APPLE USERS GROUP



OCTOBER 1991

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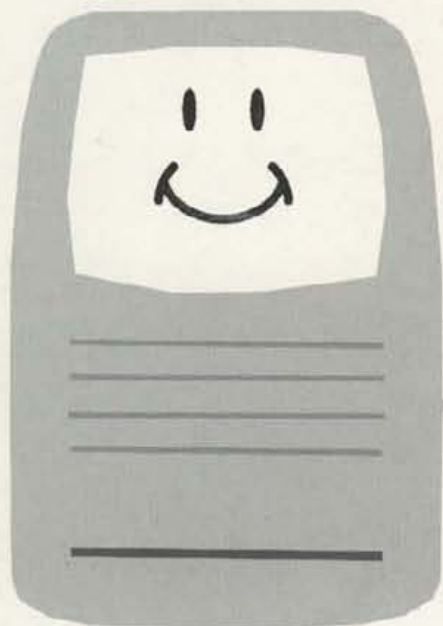


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to put Macintosh  
in the hands  
of as many people  
as possible."

*John Sculley*



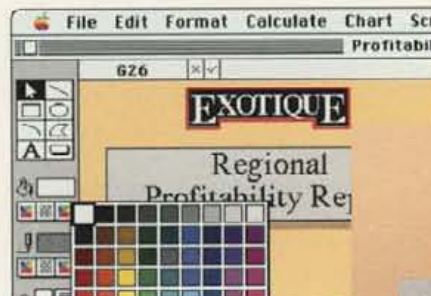
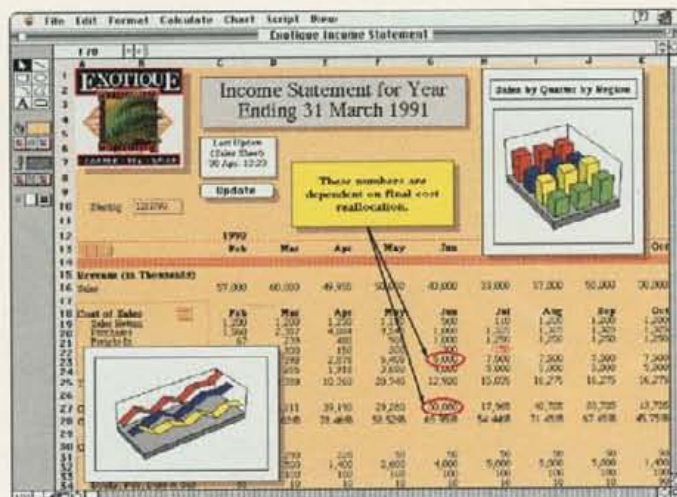
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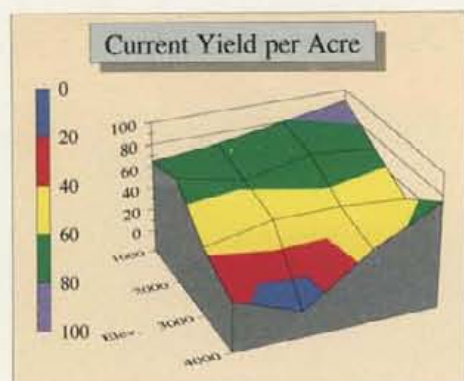


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Apple2000 supports users of all the Apple computers. The ITT 2020, I, II, II+, //e, //c, //c+, IIGs, IIGs+, ///, Lisa, XL, Mac 128, 512, MacPlus, Classic, Classic II, SE, SE/30, Mac LC, II, IISI, IIGx, IIGi, IIGx, IIGx, Quadra, Portable and PowerBook

Contributions and articles for the magazine are always welcome. We can handle any disk size or format. Please send to PO Box 3, Liverpool, L21 8PY

**NOTE:** The front half of the magazine is mainly for the Apple II, Apple IIGs and Apple ///. The back half for the Macintosh and Lisa. Look for the descriptive page icons.

### Key:

Apple II, //e and //c

Apple ///

Apple IIGs

Macintosh, Lisa

Macintosh II



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AppleWorks: John Richey

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### There are a number of ways to contact Apple2000

If you wish to order goods or services from Apple2000 or just leave us a message, call Irene on 051-928-4142 (Ansaone during the day). Alternatively you can Fax your order to 051-949-0197 or write to the PO Box. If you use comms you can leave orders on TABBS addressed to the SYSOP or contact us on AppleLink (BASUG.1).

If you are experiencing problems with Apple hardware or software Dave Ward and John Arnold run the Hotlines and will try and help you.

We are very interested in the activities of local user groups, and if you have any information which you would like publicised John Lee would like to hear from you.

We reserve the right to publish, without prejudice, any advice or comments given to members as a result of letters received, in the journals of Apple2000.

A little praise for a few of our authors wouldn't go amiss. Send all comments, and contributions, via the PO box, especially suggestions about what you would like to see in **your** magazine.

# Chairman's Corner

## Apple2000 1980-1991

Once again Apple2000 is faced with a dilemma. This issue of the magazine will be published mid-October, while the editorial is being written in late September. Apple are to announce, at least we presume they will, the new computers some time in October. We published in the September Slices a list of the new range as we knew it at the time. We can only wait and see if this turns out to be correct.

What we really want to see are the long awaited pocketbook Macs. These we understand have been developed with the help of Sony. There will also be powerful tower Macs and we also gather a streamlining of the current range with perhaps a Classic II to replace the SE/30. A new laser printer is also to be introduced. This is all speculation gathered from many sources. What we do know is that the LC is now shipping in a 4/40 configuration for the same price as the 2/40 and that a 4/80 will be optionally available in due course. The basic floppy only Classic will be withdrawn. This is a good move as you cannot run a Mac without a hard drive. I can only think that the issue of this model was simply to help publicity. A Macintosh for under £500 was quite a draw. A

pity they cannot sell the Apple IIs for this price.

We have also been caught out over the Hewlett Packard DeskWriter. No sooner had I written the review published in this magazine, than a colour version of the printer was announced. The colour version uses a special ink cartridge, interchangeable with a standard black cartridge. It is only a three colour cartridge so will not produce high quality colour images, but we understand is good enough for general spot colour work. The new printer is around the £795 mark. We hope to print a review of this printer in due course.

Apple, especially in the UK, are not noted for their eagerness in telling the User Groups what they are up to. However they have scheduled a satellite broadcast direct to User Groups on the 25th of September, this is only a few days away from my writing the Editorial. The optimists think that a new Apple II CPU is going to be announced. I shall be extremely pleased if it was, but am sceptical enough now about Apple's motives, to await such an event without bailing my breath! It seems clear to me that Apple are only committed to supporting the large Apple II user base through

software upgrades and a few compatibility products, and not by the extension of the line. I hope I am proved wrong. If a new CPU was launched, we now know that Apple UK would not support its distribution. They just do not support the Apple II line any longer. Supplies of colour monitors for the IIs have all but dried up and there is no plan to make any more. If you need one of these things, order one quickly, as you might just be lucky.

We shall be at the MacUser show again this year, look for us on stand 413/B. This promises to be an exciting show with all the new Macintoshes on display. I only hope that the price of the pocketbook computers is sensible. The breakthrough into the business world will depend to a great extent on this factor. The lowering of prices last year was not enough to break the prejudice that the MSDOS world has against the Mac. The high price of Mac software is now their target, even though a £1000 Mac can outperform a £2000 IBM clone.

Apple2000 is being hit by the recession like everyone else. Advertising, as you will see in this issue, has dropped as dealers feel the pinch. We rely on advertising to shoulder the major costs of magazine production. When purchasing software or peripherals, please make it clear to the dealer that you saw their advertisement in Apple2000. Only by doing this will they feel it worthwhile to continue to advertise with us.

**Ewen Wannop**

Annual subscription rates are £30.00 for UK residents, £35.00 for E.E.C. residents and £40.00 for other overseas members.

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This issue was prepared using Aldus PageMaker™ 4.0, Microsoft Word™ and Claris MacWrite™ under System 7.0.

### The Editorial team is:

#### Apple II Macintosh Reviews

Ewen Wannop  
Norah Arnold, Irene Flaxman  
Elizabeth Littlewood

Many thanks to all those who work behind the scenes and who receive no personal credit. These people are the stalwarts of Apple2000.

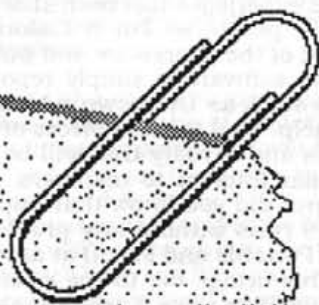
Additional thanks go to Val Evans for designing our front cover, and to Walter Lewis of Old Roan Press (051-227-4818) for our printing service.

Apple2000 are Founder Members and  
Wholehearted Supporters of the  
**Apple User Group Council**





# Letter Box



Lymington  
Hants

Dear Editor,

Re: Article on LC Compatibility

With the new ranges of Mac's, Apple seems to be moving us towards the compatibility problems that have plagued the IBM PC community.

I am contemplating an upgrade to the Mac that I currently use, but I calculate that my investment in existing software is similar to the cost of buying a new Mac. I am thus very concerned that a new Mac should run my existing software. While I am prepared to believe that new versions of the mainstream packages will eventually operate on the full range of Mac platforms, it is not always possible (or affordable) to adopt these new versions.

I was thus very thankful for your recent article on LC compatibility. Sadly, I currently run some of the packages which have problems on the LC. Is there any chance of finding and publishing a similar article for the Classic?

In the unlikely event that Apple takes any notice of its users, maybe someone should suggest that they provide a 'Basic Mac' mode on all Mac platforms. It need not run as fast as on the latest Mac ranges or offer the same range, but would guarantee that anything which runs on (say) a Mac Plus would run in Basic Mac mode on that machine.

From Apple's viewpoint, this would surely encourage established Mac users (such as myself) to upgrade their hardware.

Re: Animation Works

I responded to the advertisement (enclosure) that you sent out with the last issue of Apple2000. Please note the following letter identifying the inadequacy of this software at least for my system configuration (1MByte Mac with hard disk).

I hope that you can publish some warning about this software to warn others about making the same mistake in purchasing this software. I do not have access to any of the bulletin boards but I would appreciate it if you

could relay my concerns about this to a wider audience.

Dr. G. T. Haigh

To: Managing Director  
Gold Disk Inc.  
PO Box 789  
Streetsville  
Mississauga  
Ontario  
Canada

Dear Sir,

I recently purchased a copy of Animation Works. It doesn't. From the video and the manual it looks like an impressive piece of software. Unfortunately, the version (1.0) you have supplied is so bug-ridden it is impossible to use.

My system is a Basic Mac Plus (1 MByte, with hard disk), running System 6.0.5 and Finder 6.1. The run-size of my system file is 161KBytes. Your documentation states this is a viable configuration for Black & White.

I have removed all Inits, CDevs etc. in case of conflicts, but this does not improve the reliability of your software. I run a variety of standard packages and have no problems with any of them.

Please understand that there are far too many software faults for me to catalog them all. Indeed many of them appear to be of a random nature. The prize bugs are:

- AW Player does not run at all. It simply loads and then crashes the system.
- Animate XCMD does not run, and returns error 14 (out of memory). It doesn't crash the system, but it seems to mess up the memory application of HyperCard (V2.0).
- I have not succeeded in getting

through more than a couple of pages of any of the (B&W) tutorials before the system crashes.

- The fastest repeatable crash is to load your B&W Tutorial 1, press the "Full Screen Play Mode" button and then the "Play" button, whereupon it crashes.

- I have attempted a few even simpler animations but your software has crashed before I have had time to create more than a couple of frames.

Most of the crashes are System Error 2, others are System Error 3. On crash, the mouse still operates, but the restart button fails to restart the system again.

I am sending you the registration card with this letter in case you can identify some simple remedy. If there is none, then I will happily return the packaged software to you (or otherwise fulfil the Termination clause of your licence agreement) with the expectation of receiving a full refund. I feel sure that Gold Disk Inc. would not wish to gain a reputation as a supplier of bug-ridden software.

Dr. G. T. Haigh

□ First of all let me say we are sorry you had such an experience with Animation Works. Apple2000 accepted the advertisement in good faith. Please keep us posted as to any further developments and we shall publish any future communications you may have over the program.

What an excellent idea, to have a Basic Mac mode within each machine. If only it was as simple as that! It is very often not the fault of Apple that a new computer will not work with existing software. Though of course this will sometimes be the case. The most usual reason that existing software does not work is that software developers, for reasons of their own, did not follow the programming and toolbox guidelines laid down by Apple. Short cuts are taken either to speed things up or to produce a clever bit of coding. All of course is well until Apple release a new computer that crashes with code that should never have been there in the first place. One of the most common problems seen recently has been software that falls over because the LC does not have a maths co-processor. This should only slow things down, not cause the program to fail. Software that uses colour often assumed incorrectly that the smallest colour screen

□ If you have an urgent problem you should ring the Hotline to get help. Letters and Fax submitted to Apple2000 will normally be dealt with as part of the editorial content of the next magazine. We shall endeavour to answer problems if at all possible before publication, but due to the large volume of letters received this may not be possible in all circumstances. Please submit all letters and articles to the magazine on disk wherever possible. The disks will be returned to you when the magazine is published. The publication deadline is the 5th of the preceding month to publication. If you have a modem, send us letters, articles and Public Domain programs to the Sysop on TABBS (000000-74444444)

was a 13 inch one and that the computer had to be a Mac II, that is till the LC came along.

If a Basic Mac mode was created I think we should still see software falling over. It could set a new standard from then on of course, but then Apple think they are doing that with their current machines anyway. It is the independent software houses that are at fault, not Apple. I think there will be no easy solution to this problem.

Editor

Oakley  
Bedfordshire

Dear All,  
A Call to Arms!

Those people who have not been on holiday in outer Mongolia for the last few months will not have failed to notice the arrival of system 7.0. Judging from all the excitement in the Macintosh Press you would be forgiven for mistaking this as part of the press silly season. It can be of little doubt that a new operating system merits attention but the lack of software compatibility has been remarkably small compared to past revisions.

Most of the commercial software will work with only some glaring exceptions to the rule. One of my complaints has been the total incompatibility of The Typist scanner which has had the distinction of being the only piece of software that I own that makes my Mac bomb.

Apple have been thoughtful enough to provide with system 7 a HyperCard Stack which will look at the contents of your hard disc and print a report on it's findings. This report has been found to be not too accurate as some software

that it says must be upgraded seems to work OK on my system configuration. This experience has been shared with other people so I'm not alone. Also most of the shareware and public domain software is simply reported by this stack as 'Unknown' which is a lot of help. So it is these pieces of usefulness and frivolity that will be of particular interest to members. For instance did you know that Superclock V3.9 runs without any problems (on my Portable and Mac II at any rate)?

This brings me to the point of my writing this piece. I want to ask for the help of all members with Macs or access to Macs with the System 7 compatibility issue. We want to compile a complete list as possible of all the software available for the Mac with it's compatibility. This particularly applies to the shareware and freeware utilities and programmes that we all use and love. So I would like to ask you all to send in your experiences, the Apple Compatibility Stack Report and reports of upgrades from vendors. We will print some of the hi-lights in the magazine and the full listing will be available on disc in due course. You will no doubt know the task is enormous and I can not possibly test everything myself so I do really need your help.

I would also ask that all submissions be sent in on disk as this does save some considerable amount of re-work. Naturally all disks will be returned to you with some goodies on so there is another incentive. This will include a HyperCard 2.0 stack of the index of the Apple2000 magazine articles that I have written. Members who use TABBS will be familiar with this but it has yet to filter into the Mac library yet.

When writing of your experiences

please include the following as a minimum:

- [1] Name of Application / Cdev / Init
- [2] Whether the item is an Application / Cdev / Init
- [3] The version number (where available)
- [4] The Machine you are using and the system software revision (eg 7.0) [5] How much memory you have in the machine.

Remember that the old problem of Init and Cdev clashes remains and just because a Cdev does not work does not necessarily mean that it is not System 7 compatible. Perhaps it needs to be moved around in the loading sequence or even moved within the system folder. We have had reports that some Inits are unhappy in one part of the system folder but will run if placed in a different level from where the System would automatically have placed them.

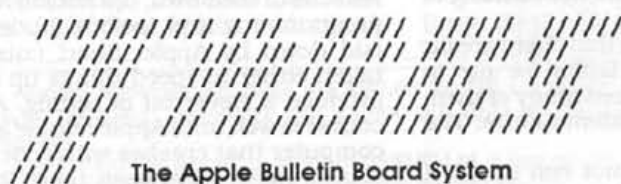
So get testing and writing and don't worry about duplicating someone else's work as I prefer too much to do as too little (I don't believe I just wrote that!). I look forward to receiving your letters and discs. Send them to me C/o PO Box 3, Liverpool, L21 8PY.

Mike Dawson

Mapperly Park  
Nottingham

Dear Ewen,

I should like to thank you especially for the great help you gave me recently. As you may have gathered over the electric telephone, it was an enormous thrill to get my Apple // files up on the Mac screen, and I should have achieved nothing without your advice.



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After using and programming Apple IIs since 1980 the Mac philosophy seems entirely different, both in the way the machine is driven and with its voracious appetite for memory; and it takes a little practice. Both machines have at least one thing in common: they remain head and shoulders above their contemporaries. Having been presented with a Mac Classic I am obviously very impressed with its power and ease of use but I shall certainly not put the Apple //e aside - they will map in with the Mac system very well and still have their advantages for certain tasks. For one thing I use a lot of technical programs, including some using a plotter, and with these the Apple //e copes very well. For another, I have a lot of text files written in AppleWriter and AppleWorkse. For a third, for work away from the desk I use a Cambridge Z-88. After much hairtearing over the connecting cable this light and very versatile device talks freely to the Apple //e via a serial card in slot 2.

Steve Carter of Holdens tells me that a //e will write to a standard 3.5 in. Mac disk drive via a Universal Disc Drive Controller (UDC) card, so to complete my setup I expect to buy these.

May I say how much I appreciate your Chameleon program, bought from BASUG some years ago and which has proved essential. I was a member of BASUG for several years and have just rejoined after a lapse, and find the magazine very interesting and maintaining a good balance between the Apple // and Macintosh concepts.

**Geoffrey Jago**

□ Thanks for all the praise, but this is of course what Apple2000 (BASUG) is all about. We share our knowledge and help each other. It should be a two way process of course.

I have long said that the Apple II does all that many people wish to do with a computer. The skeptics may say that you can hook your plotter on to the Mac and that you can read your AppleWorks files directly into MacWrite II, but this would involve purchasing items you do not already own. If it does the job why change?

Note that the UDC card with the Mac drive will not write Mac formatted disks. The combination will only write ProDOS disks but of course File Exchange on the Mac loves to handle disks like these.

**Ewen Wannop**

Virginia Water  
Surrey

Dear Sirs,

I wish to connect together an Apple //c and Macintosh LC to transfer between them AppleWorks files and programs constructed in AppleSoft Basic, using both ProDOS & DOS 3.3.

I would be grateful if you could advise me as to what cables, software and hardware I will need.

The only addition to the //c is an Applied Engineering 5.25 disk drive.

**J Tourmalain**

□ You state you wish to transfer various types of files to the Macintosh. I shall break up my answer to you into various sections as there are many points that need covering.

1. By transferring files into the Macintosh you will only be able to use text files or AppleWorks text files within the Macintosh environment. Programs written in AppleSoft Basic will be of no use whatsoever as they are not compatible with any of the available Macintosh Basics. No application programs or system files from the Apple II environment can be run within the Macintosh environment.

2. A simple solution, which requires extra hardware to be purchased, is a //e emulator card for the LC and an external 5.25 disk drive. It may be that your AE external drive will work with the LC //e card though I have no direct experience of that. With a //e emulator fitted your Mac can then switch into //e mode and allow existing ProDOS and DOS 3.3 programs to run. You will also be able to transfer files directly to the hard disk on the LC which will then be available under the Macintosh environment. Bidmuthin can supply one of these cards for you. They are priced around £125 as I remember.

3. Another simple solution is to get hold of an external 3.5 disk drive for your //c and to transfer all the files to a 3.5 ProDOS formatted disk. You can then transfer files from that disk directly into the Macintosh using the Apple File Exchange utility on your Mac system disks.

4. The more complex route, and one that is suitable for transferring files between any computer, is to hard wire between the serial port of the //c and the serial port of the Macintosh. The //c to ImageWriter II printer cable will do this for you. We sell this cable from our mail order shop. Please quote the code 658010. Once connected you will need to use communications software at each end to effect the transfer. Red Ryder from the Macintosh library disk #81 will handle the Macintosh end and a program like Antelope from our Special Release library will handle the //c end. This program runs under DOS 3.3 so you might also require Chameleon, again from the Special Release library, to transfer files between the DOS 3.3 and ProDOS environments. You should then use the Xmodem transfer protocol of the communications programs to copy the files between the two machines.

Option 4 is not such an easy route to follow and would require quite a lot of learning to be able to operate the two communications programs successfully. I would recommend either Op-

tion 2 or 3 as being much simpler route. It really depends on how much money you are willing to set to this project and exactly how many files and how often you wished to effect transfers. If it is to be a 'once only' transfer then I would suggest just sending in the original disks to us with some blank 3.5 Macintosh disks. Include return postage and full details of which files you wish transferred and I could then transfer the files for you.

**Ewen Wannop**

Darlington  
Co. Durham

Dear Sirs,  
*Blind Transporter*

I would appreciate any help in getting my PC Transporter card to see my hard disk.

I recently purchased an Applied Engineering PC Transporter card from Holdens in Preston, and soon got it installed and running in my Iigs. No problems except my inexperience with the peculiarities of MS-DOS.

Shortly after, I purchased a hard disk from the States and that works like a dream. It came set up for the Iigs and all I had to do was change the American plug for an English one, and it worked.

Knowing how memory hungry MS-DOS programs are, I bought a larger hard disk than I felt I would need for the Apple, and ended up with 105 megabytes split into 3 partitions of 32 Meg and 1 partition of 9 meg.

When I tried to set up a hard volume for MS-DOS I hit my first problem.

I followed the instructions in the PC Transporter manual and created a volume called MSDOSVOL on one of my ProDOS partitions, and set the path in the Transporter Control Panel to find it. I then had to get into MS-DOS and format the volume MSDOSVOL so that MS-DOS could use it.

As instructed I booted up the Transporter with MS-DOS 3.3 and at the prompt typed "FDISK", which is supposed to find any attached hard drives. It comes back with the message "No fixed drives present!"

**HELP!**

I have an MSDOSVOL on partition 1 and partition 3 of my hard disk. According to the RamFAST manual, the first two partitions reside in Slot 7 (card location), and the 3rd and 4th partitions are configurable to ghost user selected slots.

I have tried booting the PC Transporter from the hard disk, and from floppies, and with the first of the "ghost" partitions set at Slot 6 and Slot 1 respectively. I have tried these configurations with the partition 1 MSDOSVOL, and partition 3 MSDOSVOL set up in the PC Transporter Control Panel, with the same result every time i.e. "No fixed disk present".

Please help. An IBM emulator is very unfriendly with only one disk drive, and I was relying on using my hard disk to make it usable.

**Martyn Hole**

□ The PC Transporter boots under ProDOS 8. This means that only partitions seen by ProDOS 8 can be used. Depending on the partitioning software you have used for your SCSI drive it may be that only partition 1 can be seen and used. GS/OS can see all the partitions of course. If you check what drives are there from a program like Copy II+ running under ProDOS 8 you will be able to see what is available.

In the control panel of the PC Transporter you must set up the full pathname and exact spelling of the route to your MSDOSVOL hard disk complete with all separators.

/partition.name/directory.name/  
MSDOSVOL

With the usual amount of floppy disks available to MSDOS you should see the Hard Disk as drive E: Having done this you will need to save the results to disk and reboot to finally see the fixed Hard Disk. You should use a copy of your AEPC disk to do this as it will need to be unlocked to save the configuration. Fdisk should now find the drive when run. Make sure that the Assign Disk Drives list is correct. If this does not match your exact setup then the AEPC program will not find the drives you have told it are there.

If this still does not work then I am not sure where the problem lies. I do not have direct experience of the RamFast card but doubt that is causing the problem. To test things out you could always create an 800k MSDOSVOL on a 3.5 floppy and check that that is seen correctly. This would at least show you that you are going about things in the right way.

I myself put my PC Transporter card into Slot 6 and then alternate between MS/DOS and my 5.25 drives. I rarely want to use 5.25 drives from MSDOS! The 5.25 drives I have daisy chained from the back of my 3.5 drives. Details of this were published a couple of years back in the Apple2000 magazine.

I hope that some of this helps you resolve your problem.

**Ewen Wannop**

East Ogwell  
Newton Abbot

Dear Sirs,

I am using an Apple II+ Payroll 11 wages program from Vlasak Electronics who are no longer trading.

Do you know of anyone who could modify this program to take account of the current rules on National Insurance or alternatively supply a similar payroll program that runs on the Apple II+.

**D Martin**

□ I do not know the Payroll II program myself but would venture the following comments:

If the program is a stand alone program that cannot be re-configured from master disks then your only hope would be if it were written in the Basic language and that the program files were accessible. If the program is written in code or the disks are protected in some way then you will not be able to alter the program at all.

If the program is configured from master disks it may be that it could be modified by someone with expertise in that field.

As you require a program for the Apple II+ that conforms to current rules, I think this would be almost impossible to find. All programming done these days assumes that you have at least a //e computer. There is very little being written for the Apple II for business use now as most people have moved on to other machines for these purposes.

I presume you have tried MGA or Bidmuthin for an alternative program. I will however publish your letter in the next magazine and see if we can get some more information from other members. Can anyone help please?

**The Editor**

Wendover  
Bucks

Dear Sir,

In case anyone is still struggling with the Applesoft year/clock programs in the August issue, a transcription error altered Line 240 in both the submitted listings. The last instruction in both (identical) lines should read YR = Y(V) not YE = Y(V).

Fairly easy to deduce, but .....

**R. P. Brown**

Farnham  
Surrey

Dear Apple2000,  
*Computers Can Kill*

Right now my Apple //e is killing me and I need some help please. The story so far is outlined under four headings:-

1. Tried to connect 2 \* Unidisk 3.5s, daisy chained to Slot 7, leaving 2 \* Disk II in slot six, thus Unidisks have the recommended position to load. On loading disk to drive 1, little red light blinks, sighs and dies. Swapping drives, swapping slots, disconnecting Disk II brings no improvement. This system has been up and running in other hands. Software tried is ProDOS versions of AppleWorks and Format80.

2. When in trouble use TABBS it says, so having tentatively tried and got through a few months back I decided to try again using Gazelle 1.8 but before doing so I decided to learn about Macros and automate the connection process.

Having composed a one line Macro to get me started I was faced with the problem of saving it. The program disk was looking for a disk in Drive 2 to save it on, so I fed it another copy of the program disk. Volume name, pathname questions which I couldn't answer, left me with no alternative but to dial through D. Isn't there a simple default setting which would avoid all the process of setting up volume names and pathnames for a single macro?

3. So I got through to TABBS with great relief. It recognised me - and hit me with "Password?". Did I give it a password last time, the only time I ever spoke to it? If so I have forgotten that password and need to be bailed out or remain banished from TABBS forever.

4. Which brings me to Jon Gurr's kind offer. Earlier this year I had been looking for a home book keeping program to provide any prop possible for this family's creaking economy. It seems to me that anybody who is having to wrestle with a demanding job and the sheer volume of correspondence involved in running a family/household budget needs a good administration system. Following my request for simple //e software, I had a reply from Richard Kelly and subsequently acquired Book Keeper II by Advanced Micro Products. So far I am happy with it because it is simple and allows me to set up or amend the headings I use easily.

However, I am interested in continuing to evolve a //e based home management system which is on a par in user friendliness with current office systems, but with its scope adapted to the home market where the clerical staff may be limited to 1. Thus I would be happy to review any packages offered in this category as soon as I can get some advice on how to get 3.5 inch drives working.

**Bob Wileman**

□ Computers Can Kill ... a slow death for us all perhaps! Anyway, to your problems ...

1) UniDisks fail to work. The real problem here is that you say they worked on another machine. I assume that you are using them with the same interface card that they worked with before. UniDisks are not the same as Apple 3.5 drives for the IIs or the Mac and not the same as the Apple 800k external drives for the Mac. These drives cannot be used on the //e.

I also assume that the software you know is good and will boot. You will only be able to use ProDOS and not DOS 3.3 with these drives.

Slot 7 can cause problems if all the slots are full and the card placed there has pins 22, 23 linked to pins 28, 27. I doubt though this is your problem as you say you have moved the card around. The only reason to want to put it in Slot 7 would be for Slot 7 to auto-boot before Slot 6. You can of course do a PR#x to boot from Slot x.



I also assume that you have the drives well away from any video monitors. Do not sit a monitor on the drives. The induced electrical currents will stop any drive working! I also assume that they have not been subjected to any damage between the machine they worked on and yours! I also assume you do not have an accelerator working which has not been told you have a slow disk drive in Slot 7.

I cannot think of any other reason why they do not work.

2) Gazelle and saving macros. The key to working with ProDOS is to understand the /volume/pathname/filename concept. This is fully explained in the Gazelle manual and of course in other places. If you have set a Prefix to a pathname. This will be where ProDOS will put a file that only has a name and no separators to the full pathname. As an added bonus, Gazelle accepts the ,S6,D1 format common to DOS 3.3 users. There should therefore be no problem at any time in saving a macro or other file. Again refer to the manual for full details. If you put in two disks with the same name however, ProDOS will get mightily confused!

Generally in using Gazelle you should do a Volume command to see the name of the disk you are using. Then either set the Prefix to that disk or a data disk which you have named yourself and Archive the results. Life should be easier from then on.

3) For security TABBS uses a Password entry. This protects your private mail from prying eyes! When you logged on for the first time you were asked for a Password and told to remember it. However, once forgotten, you need to sort out with the Sysop explaining what has gone on. I notice that you last logged in to TABBS three days ago so I assume that you actually remembered the password in the end!

Ewen Wannop

TABBS  
E-Mail

Dear Ewen,

I noticed a letter from Eric Leadbeatter in August's magazine.

He is asking about SYMBFILE hard disks. I had a Symbiotic hard drive. If that is the same then the position of ProDOS systems is:

I had to change the ProDOS version on some of my software before it would work on the hard drive. I had to remove the ProDOS and replace it with version 1.1.1. SoundSmith. I have downloaded this and received from the author a data disk and updated program disk. I wrote a short test piece of music. I can play it OK from the EDIT menu using play zone. But it doesn't play from the PLAY menu - "play music". Other musics (to use his term) already on the disk do play OK.

Any ideas anybody?

Arthur Robinson

Reephram  
Lincoln

Dear Editor,

This is my first attempt at sending an article on Disk to any magazine let alone one devoted to computers, but having read the various letters in the the Apple 2000 publication I guess it's time I had a say.

First and foremost let me describe myself, I am 71 years old, a retired Electrical Engineer. I served in the Royal Corps of Signals during WWII and my travels over that period can be summed up by describing them as being from Lapland to Japland. In the course of my work I repeated some of my service travels and worked in places as far apart as Norway and Ecuador.

As I approached retirement, I looked round for a hobby to while away the hours and decided to make use of the training the army gave me. I managed to pass the examinations to obtain a Ham licence. For those interested, my call sign is G4LPV. I thought I would be able to devote all my time to this hobby, as unlike my working life I would not be travelling about, but of course my good Lady had other ideas, (I now wonder how I had time to work)!

I came into computing as an adjunct to my hobby as it seemed a good idea to make use of this new technology. It was another interesting way of communicating in addition to the microphone and the Morse key and I could also make use of one of the skills the army taught me, touchtyping.

My first computer was a Commodore 64 and along with a home built interface and a purchased programme, I could run RTTY over the air and see the result printed out. I also used it for recording my contacts on a Database and some letters could be run off on the printer but they were far from what can be described as 'Near letter quality'.

My son who had need for a much larger computer in his business gave me this Apple IIc with its ImageWriter and second disc drive. Now I can run off a passable letter, make use of 'Publish It', and find great interest in trying out the variety of programmes available. Along with the IIc came a number of original disks that have helped me find my way through the maze of Applesoft, AppleWorks, Integer, DOS 3.3, ProDOS and my grandchildren still haven't tired of playing "Lemonade" which is a game on one of the early demonstration disks. I use a double video adaptor on the back of the IIc which enables me to use the 9" green screen that comes as standard and also use a 14" colour TV on the side. The colour TV is a Ferguson TX with a RGB monitor socket. On my Commodore I could make full use of this facility, but as yet have not found any reference to it's possible connection to the IIc.



Maybe some electronic wizard out there could help.

I am still looking for a suitable programme that will allow this IIc to be used for RTTY. I did find one for the II that also gave a connection diagram with a choice between the game port or the cassette recorder port. I managed to work out a connection sequence that allowed me to receive RTTY but not transmit. The programme showed on the screen a transmit state, but operating the keyboard showed no alteration in the state of the voltages coming from any of the pins on the gameport. So I am still looking.

I notice that one of the complaints that is often repeated is that most of the magazine is taken up with Mac information as opposed to Apple II items and yet past numbers of the magazine are not available. Well here is an offer that in my opinion cannot be refused. Someone must have a collection of these early editions where Apple II reigned supreme. I am willing to copy these articles/programmes/tips/hints to a DSDD disk and return the magazines to whoever has supplied them and give the disk to the library so making it available to all.

Next is a query:- What difference does the upgrading of the ProDOS file make to any Folder except to increase the number of blocks taken up by the new ProDOS 8V1.9? The original was 30 blocks the new version takes up 34. I have changed the ProDOS file on some of my Discs Basic, Utility, and even this AppleWorks disc I am using now and can see no difference other than losing 4 more blocks.

One tip I would like to pass on was given to me via "Mercury" which is the magazine of the RSARS. If the printer ribbon shows signs of drying up it can be revived a couple of times before one has to revert to a new ribbon or an inker. Take the ribbon cassette out of the machine and gently prise off the cover taking care not to break off the locating pins. From a distance of about twelve inches, spray the revealed coiled ribbon with WD40. Leave the cassette in this uncovered state for at least 4 hours and then replace the cover. Replace the cassette in the printer and you will find the density of print restored, and in addition, it lubricates the action of the pins. Last year when I made great use of Publish It and began to really run through my stock of ribbons I intended to make use of a Re-Ink service run by a firm in Spalding, but they informed me they had given up this service and disposed of their machines. I tried another firm which advertised in the Computer section of the RSGB magazine 'Radcomm'. I found them very good and prompt with both their service and return of the ribbons. They are :-

"Re-Ink Services" 178 Long Lee Lane, Kelghley, BD21 4TT.  
Telephone 0535 663203.

Two more queries that maybe some

kind soul out there could help me with are as follows. Unlike the IIc+ this machine does not have a machine code assembler programmed in it. I am looking for a reasonably priced programme to enable me to do just that. Last but not least, does anyone know the cure for a fault that is on my ImageWriter. Using it in the single sheet mode the sheet tends to slip so it is obvious that the change over from pin feed to single sheet lever is not actuating the mechanism fully or it is worn.

Before I attempt to open the ImageWriter up I would like some information on the subject if anyone can supply it. I have all the user manuals for all this equipment and the IIc Technical Reference Book, but this fault is not one of those included in the list of probable faults.

My thanks to Irene who has shown great patience with my queries and acts so promptly in sending those items I have requested. Thanks to Dave Ward for explaining the intricacies of Unshrinking and the same goes for Ewen in answer to my queries re the use of an old Miracom Modem to obtain TABBS. Some day I shall get on line I hope.

**Harold Bennett**

□ Thank you for your long letter and the saga of your involvement with the Apple II world.

The //c socket has a form of RGB available, but it is non-standard. The adaptor provided by Apple with the //c converted this signal into standard PAL composite video. There are some commercial adaptors available which will give standard RGB colour from this socket. The Peacock a Taiwanese manufactured product is one.

I did see a program for RTTY many years ago for the Apple II. I do not know where this is now or whether it will work on the //c. Can any of our other radio 'hams' please help us on this they must be using something themselves? Perhaps they could provide us with some PD or Shareware for the library.

I am pleased to see that you think that complaints are that there is too much Mac stuff in the magazine. The Mac people tell us there is too much Apple II material. We divide the magazine down the middle and try and please all of you at once. We do not have back copies of the magazine mainly because we would have no where to store them and the cost in printing extra copies in the first place could not be justified. Material from the last three years is held as archives on disk, though of the Macintosh kind. We can usually reprint articles on request from recent issues. Just send a stamped address envelope, details of what you would like reprinted, and give us time to get the printout done. Apart from that your offer is an excellent one especially for the older magazines.

If you are running on a //c there is not much point in changing your version of ProDOS. The main differences in the latest versions, apart from curing some very obscure bugs, are to make ProDOS (P8) compatible with the //gs and AppleShare. The latest version includes a very nice program selector which is well worth while if you do not already have a selector. You will otherwise see no difference on the //c.

The most reasonably priced assembler must be our library disk D046. This is a very simple assembler but may do what you want. It runs under DOS 3.3. Otherwise look for a secondhand copy of the Apple Assembler (DOS 3.3) or for a copy of Big Mac. This was the forerunner of Merlin which is probably the Rolls Royce assembler of today. Merlin 8 may be out of your price bracket though is well recommended if you can afford it.

There should be a lever inside the ImageWriter on the left that controls the pressure of the rollers. However I would suggest cleaning the rollers first as this is the usual cause of paper slip on older printers. If you go to a good office supplies company they should be able to sell you a roller restorer that will clean accumulated mess and polish. I do not know the chemical they use in these preparations, so perhaps someone could enlighten us and save the expense of buying a brand name!

**The Editor**

The Editors  
Linda Reed  
Dianne  
Crimmings  
Karl  
Bridgman



To the editor,

For those who read my review on CNC Trainer (Apple 2000 Aug 91 6(4) pp 15) here is a little update. Kitchen Sink Software now supply the same program for the IBM and the Mac under the name of "Streamlined CNC".

In the same issue of Apple 2000 (pp 30/31) you also published my Apple II Information Source. I never imagined that you would consider it for publication. It got produced because I found that I was spending unnecessary time searching back issues for some obscure tip I remembered from 4 years back. I have been living in hope that other people had done the same thing long ago, so just to spread the load (hoping to persuade others to send me their lists), I have been including my Database on disks that get sent to friends.

Perhaps I can use this platform to say if anyone has been quietly doing the same thing, please send me a copy to combine it with mine. If any member of Apple 2000 wants to get a copy of my list, send me disk. (200+ entries in ADB).

**Peter Davis**

## AppleLink Clippings

### IIgs Hard Drive Partitions

**QUESTION:** How many partitions can I have on a hard drive connected to an Apple IIgs?

**ANSWER:** If you are using an Apple II High-Speed SCSI Card, the Apple IIgs will recognise up to 32 partitions on any one hard drive. While the 32 partition limit is correct for GS/OS, ProDOS 8 will only recognise two partitions per hard drive. If the SCSI card is placed in slot 5 of the IIgs, up to 4 partitions can be recognised by ProDOS 8. The limiting factor of using slot 5 for a hard drive is that this requires setting slot 5 to "Your Card". The Smart Port on the back of the IIgs will then not be usable for 3.5" floppy drives. Any 5.25" drives connected to the Smart Port will still be usable. The only way to use 3.5" drives with this configuration is to use a UniDisk 3.5 and UniDisk 3.5 Controller card. The Apple 3.5 Drive (platinum) will not be usable, as there is no controller card that works with that drive. Products Forum Apple II GS/OS 22/10/90

### Apple II GS: Using ToolBox To Create/Modify Character Sets

The Apple II GS ToolBox allows programmers to do some interesting things. You can, for example, redefine the keyboard layout by patching certain calls to the ToolBox.

To create new character sets, you'll intercept the data coming from the keyboard, translate it to whatever you want, and store it in the proper place. To learn how to do this, you'll need the Apple II GS ToolBox Reference Manual (two volumes, APDA order number K2BGST). This book describes the ADB toolset that you would use to alter the keycodes.

The Keyboard Micro gets data from the ADB keyboard, then software is called to get that data and send it to the \$C000 area. Your software would read the keyboard micro, and then translate the keycode that it gets back into an ASCII (or whatever) type of code, storing it back into the \$C000 vector. Altering the character set is not possible in text mode, because the character sets are in ROM (in the VGC custom IC) and can't be changed. But there is a simple way to accomplish this: use the standard graphics environment that the Apple II GS provides. By using the Font Manager, you can create your own customized fonts for any language and any type of symbols. This system is also documented in the Apple II GS ToolBox Reference Manual.

© Apple Computer



# AppleXtras

/XTRAS.GS.NO.11/

□ Most of these files have been shrunk using ShrinkIt.

## Programs Directory

### WRITE.AWAY.BXY

WordWorks grows up and becomes Write.Away!

This Shareware word processor has everything you could ever wish for. A snip at \$10!

### SUPERVIEW.BXY

A Super Pic view program that can view and convert the various 3200 colour pictures that abound. Comes complete with a picture of your other car.

### SAP.VER.5

A Simple Animation Program that is anything but! You will be able to create your own animated cartoons, point of sale displays and other uses. You will be able to create your own objects or actors and place them into your own scenes. Full instructions and samples are provided.

### SYQERR.TXT

This short text file explains all the Syquest errors you may see from your removable cartridge drive!

/XTRAS.P8.NO.11/

=SUPER3.BXY	LIB	86	5-AUG-90
=CHGFIL.BXY	LIB	48	28-JUN-91
=DIRECTOR.BXY	LIB	27	10-SEP-91
=SHRINK.BXY	BIN	109	20-AUG-91

/XTRAS.GS.NO.11/

=BOOT.SYSTEM	SYS	1	6-JAN-90
=TITLE	PIC	65	10-SEP-91
=PRODOS	SYS	34	20-AUG-90
=PROGRAMS	DIR	1	10-SEP-91
=WRITE.AWAY.BXY	BIN	64	9-SEP-91
=SUPERVIEW.BXY	LIB	41	10-SEP-91
=SAP.VER.5.SHK	SHK	381	27-JUL-91
=SYQERR.TXT	TXT	4	2-DEC-90
=SYSTEM.UTILS	DIR	1	10-SEP-91
=SUPER.INFO.BXY	BIN	162	9-SEP-91
=SUPERDPATH.BXY	LIB	42	10-SEP-91
=SDREMI.BXY	BIN	11	9-SEP-91
=PORT.BXY	BIN	5	9-SEP-91
=ZIPSWT.BXY	TXT	6	9-MAY-91
=GSCIIP.BXY	BIN	49	29-MAY-91
=GAMES	DIR	1	10-SEP-91
=MILESTON.SHK	SHK	565	16-JUL-91
=BLACKJK.SHK	SHK	154	11-AUG-91

## System.Utils Directory

### SUPER.INFO.BXY

This 'can't do without it' desk accessory gets even better. It has now reached version 2.2 and has many new modules provided. Also included are APW source files showing you how you can make your own modules.

### SUPERDPATH.BXY

Tired of being in the wring directory when you start your favourite application. SuperDataPath will solve all those problems for you in a trice!

### SDREMI.BXY

If like me you use a Ram disk on your IIGs, you will no doubt have lost important files when you shut down the system without thinking. This neat little utility will remind you that you have unsaved files and allow you to reboot and preserve them.

### PORT.BXY

This small Printer Driver allows the IIGs to talk at 57600 baud to the Hewlett Packard DeskWriter. Use this with Harmonie or Independence Desk Jet drivers and use the superior DeskWriter for your printing.

### ZIPSWT.BXY

Adds desktop Control Panel support for the ZipGS accelerator.

### GSCIIP.BXY

A desk accessory which converts Binscii and BinHex files. You may come across this form of file transfer on some Bulletin Boards.

/XTRAS.P8.NO.11/

□ All files on this disk have been shrunk using ShrinkIt.

### SUPER3.BXY

SuperPatch 3.1 is the latest version of this utility to patch bugs and features into AppleWorks V2.0 and 2.1. It cures the known bugs and adds many extra features that will be a boon the busy AppleWorks user.

### CHGFIL.BXY

Change-A-File 4.02 is the latest version of this AppleWorks utility. It can convert files to and from AppleWorks, convert AppleWorks 3.0 to AppleWorks 2.0 and repair and exhuine AWP files and restore damaged ADB files.

### DIRECTOR.BXY

A British made product from one of our own Apple2000 members. Martyn Hole's program selector not only browses and selects files but will let you print their contents to your printer as well.

### SHRINK.BXY

The very latest ShrinkIt for ProDOS 8. Version 3.3 runs on the enhanced //e and //c. This new version cures a few bugs and is AppleShare friendly. This is becoming more and more important as time goes on!

## Games Directory

### MILESTON.SHK

For all those budding Nigel Mansell's get your crash helmet on, tighten your seat belt and off we go. See if you can beat the computer controlled car to the finish line. Throw in a few punctures and crashes to make things lively. The computer plays a mean game and is not easy to beat!

### BLACKJK.SHK

Get your green eye shade on, cut a new deck and get card sharpening! This Blackjack tutor will teach you all you need to know about the game.

## Compuserve®

□ Please send us your ID's either to the Apple2000 ID 76004,3333 or to the PO Box in Liverpool or of course to the Sysop of TABBS (0225-743797).

Apple2000	76004,3333
John Beattie	100012,360
Peter Bell	100010,404
David Collins	100016,3060
Michael Dawson	100015,2232
Gary Doades	100016,2353
Felim Doyle	100016,1151
David Evans	100014,1161
Mateen Greenaway	100016,602
Alastair Greenstreet	100010,742
Dale James	100016,1152
Bryn Jones	71307,1457
Mark Hooper	100014,374
Jihad Jaafar	100016,526
Richard Kelly	100029,177
Peter Kemp	100016,1172
Andy Letchford	100016,1771
Elizabeth Littlewood	100016,401
John Maltby	100014,2216
Mark O'Neill	100016,476
Steve Perry	100013,365
Jeremy Quinn	100016,560
John Richey	100016,1037
Russell Ridout	72007,211
Arthur Robinson	73457,3614
James Southward	73767,1336
Ahmet Turkistanli	100016,3365
Donald Walker	100015,256
Andreas Wennborg	100012,342
James Walker	100013,142
Ewen Wannop	76224,211
Brian Williams	100016,2735

## Contacts

### Compuserve/Forum

World's largest online database with many specialist Apple forums. Large libraries of PD and ShareWare software, real time conferences, message areas and much more.

Accessed either directly on 071-490 8881, or through the BT DialPlus network. You do not need to have a DialPlus account to access Compuserve.

It will cost you around £8-£12 an hour inclusive of all online charges, network access and local phone call.

#### To join contact:

Compuserve/Forum  
Freepost (BS 6971)  
15/16 Lower Park Row  
PO Box 676  
Bristol  
BS99 1YN  
0800-289 378 or 0272-255111

□ Mention you are an Apple2000 member and the joining fee will be waived. If you are a Macintosh user then order a copy of Compuserve Information Manager at the same time.

## AppleLink™

□ Many of you will already be members of AppleLink™ and others may be thinking of joining. For simple E-Mail it cannot be beaten. It will also keep you up to the minute with what is happening at Apple headquarters. We would like you to send us your contact ID's to add to this list.

Apple2000 BASUG.1  
Cumbrian Computers CUMP.COMP  
Herts User Group NA.HERTSUG  
Liverpool Group LIVERPOOL.UG  
Mosaic Computers MOSAIC.COMPU

## Help Lines

□ Members having offered specialist help facilities are listed below:

Alan Armstrong (Apple II+, IIGs)  
Ken Dawson (TimeOut, ProSel)  
A.W. Harmer (Mac)  
Leonard Horthy (4th Dimension)  
John Richey (AppleWorks)

## Radio Hams

□ In response to our recent request we now have more Radio Ham call signs!

Mike Bass - G3OJE  
Harold Bennet - G4LPV  
Andy Harrington - G1XLW  
(Packet Radio Mbox) - GB7SUT  
Tony Gatrell - G4SVB  
Arthur Owen - G2FUD  
John Lincoln - GM0JOL  
Ian Brydon - G0PMZ

**MEMBER**  
**MNS**  
**MUG NEWS SERVICE**



USER GROUP  
**CONNECTION**

## October CrossNumber

### Rules of Engagement

The first correct entry, in each section, drawn from the postbag wins a prize. Please remember to indicate which of the prize choices you would like.

Only entries from current members of Apple2000 will be eligible.

No member of the committee or the editorial team may enter.

Our decision will be final.

Only entries received in the PO box in Liverpool before the 30th of November will be deemed eligible.

### How to Contact You

Name: .....

Membership Number: .....

Address: .....

### Post your completed entry to:

October Competition,  
PO Box 3,  
Liverpool,  
L21 8PY.

Please indicate which prize you would like:

- ☐ The Carmen San Diego geography trio (World, US, Europe) Apple II 5.25" disks
- ☐ Pyware MusicWriter for Apple IIGS
- ☐ Tesserae for the Mac

### SPECIAL

All 3 prizes will be allocated this time as a Christmas bonus to the members. These are great prizes and the CrossNumber is so easy so don't forget to take part and send in your entry.

### SOLUTION June's Acrostic

"Then Katsuk, who had called him after a long time, was carrying the pack. There had been no sign of body or bloody marks of a struggle on the trail."

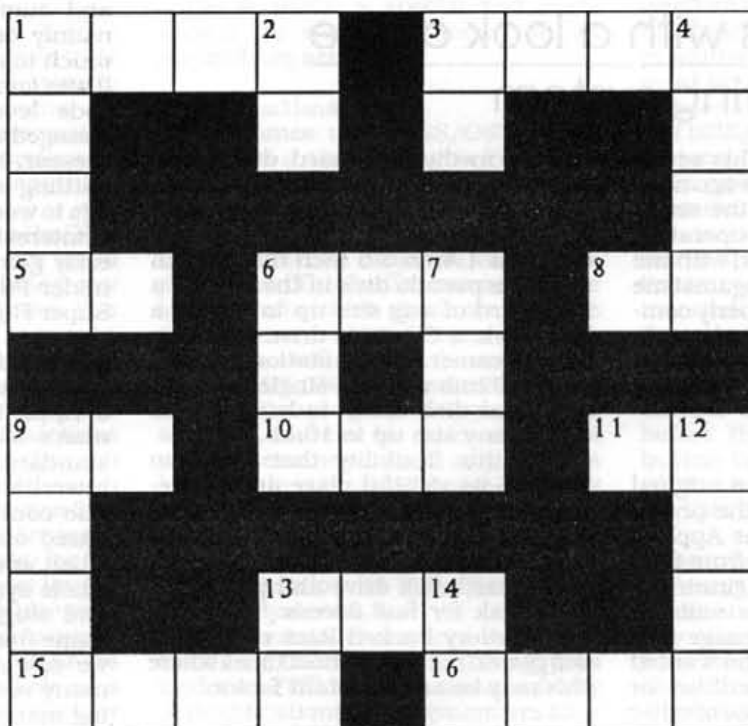
The above passage is from *Soul Catcher* by Frank Herbert and is published by New English Library, price £2.99.

□ Stephen Davies of Dudley (member 2734) claimed LOC as his prize for being the first to be drawn with the correct answer to the June Acrostic.





# Apple-pie Order



## An Easy CrossNumber with Lots of Prizes To Reach You in Time for Christmas

### Across

1. Year Charles I executed.
3. 9089 in hex.
5. The answer to "Life, the Universe & Everything".
6. A gross number.
8. Biblical age-span for man.
9. Baker's dozen.
10. Number of the Beast.
11. Key of the door - used to be.
15. Start of Queen Victoria's reign.
16. - A Space Odyssey.

### Down

1. Start of The Great War.
2. Highest prime less than 100.
3. Number of whole miles in a marathon.
4. Number of yards in a mile.
6. Fourteen squared.
7. Sequence of numbers.
9. Binary team?
12. Year of Charles Babbage's death.
13. Heinz' varieties.
14. Number of semitones in an octave.

Remember, there is no need to spoil your magazine as photo-copied entries are quite acceptable.

# Disk Zaps and all that (part 7)

## Ewen Wannop concludes the Disk Zap series with a look at the GS/OS operating system

The previous articles in this series were all written several years ago now. I had intended to complete the series with articles on the other operating systems then commonly used with the Apple II series but time was against me and the series was never properly completed as I had intended. This article brings us up to date and describes the changes that have been made since that original series.

### Postscript

At the time of writing the original articles, DOS 3.3 was still the prevalent operating system on the Apple II series. ProDOS had evolved from SOS for the Apple /// and was beginning to make its mark. Pascal was still the 'serious' programming language and CP/M was used by those who wanted to word process with WordStar or wanted to use their experience of other operating systems.

Since that time things have changed on many fronts. The consolidation of the ubiquitous MSDOS operating system all but killed off CP/M. Any survival of CP/M at all has been due to the enormously successful Amstrad word processor. Pascal has been relegated to the category of an 'interesting' language as C took over as the preferred language in the Apple IIgs and Macintosh environment. ProDOS finally won out over DOS 3.3 for many reasons which I will describe shortly. The preferred programming language on the Apple II series is still direct 6502 machine code written with the aid of an assembler though on the IIgs it has been a mixture of assembler, Pascal and C. Probably the best and most widely used assembler on the Apple II is Glen Bredon's famous Merlin.

### ProDOS in brief

The strength of ProDOS, as outlined in the original series of articles, was its interdependence from the size and kind of disk medium used. A ProDOS block device is simply a storage device which can read or write blocks of data what it is made of does not matter. The first directory on the device tells ProDOS the size of the device and other characteristics it may have. As far as ProDOS is concerned it could not care less if the

storage medium is hard disk, Ram chips, floppy disk or even CD ROM. With this freedom a block device can range from a 140k 5.25 inch floppy disk to a 1.4mb 3.5 inch disk. It can also be a pseudo disk in the form of a Ram card of any size up to 32mb, a hard disk, a CD ROM drive or even a tape streamer. The limitation in every case is 32mb within a single partition or logical disk drive. Individual files can be any size up to 16mb.

It is this flexibility that has won ProDOS its rightful place as the preferred operating system for the Apple II. It is quite common these days to see a ///e computer with both 3.5 drives and a hard disk drive and perhaps a Ram disk for fast access. There are even battery backed Ram cards that will give extremely fast boot times where this may be an important factor.

### Enter the IIgs

The ///e had introduced a new element into the Apple II arena. With its on board 80 column screen we started to see software written specifically for the ///e. This software often would not run on the old II+. The ///e came along soon after and introduced the 65C02 processor. The 65C02 has an enhanced instruction set. Programmers welcomed this as it increased the speed and power of their programs. This led to an enhanced chip set for the ///e which included as well as new ROMS the 65C02 processor. The ///e's manufactured today have this chip set installed and so new software will often not run on the II+ or on a basic unenhanced ///e and only runs on an enhanced ///e or a ///c.

Four years ago we saw the IIgs launched into the eager arms of the Apple II enthusiasts. This extraordinary machine uses a hybrid micro processor built around the 65C02. It has two modes of operation. On startup the IIgs simply thinks that it is an enhanced ///e. As such it will of course run all the old Apple II software. It has also got a native mode operation where it switches into a full 16 bit processor addressing memory in 64k banks up to 8mb. The gaps seen in the operation codes of the 65C02 have been filled with new addressing commands and

16 bit functions.

The IIgs also included a Super High Resolution colour display which was a considerable improvement over the previous High Resolution displays on the II+ or the ///c.

The increased power of 16 bit software demanded a more powerful operating system. To start with Apple simply built a shell round ProDOS, now renamed ProDOS 8 or P8 for short and called it ProDOS 16. P16 was a slow and cumbersome operating system mainly because it had to do far too much to actually achieve any results. It was familiar to work with at machine code level having only marginally changed instructions from its P8 predecessor. Most programmers were still battling with the other aspects of the IIgs to worry about these limitations. It is interesting to note that many of the early games for the IIgs were written under P8 even though they used the Super High Resolution display.

### The Finder

It seems it was always the intention of Apple to make the IIgs be the poor man's Macintosh. The IIgs uses the standard Apple peripherals that are interchangeable with its sister, and in due course we saw a proper Finder based on the Macintosh forerunner, albeit working much more slowly. The whole system worked in such a slow and sluggish way it got itself a bad name from the start. As time went on we saw ProDOS 16 evolve through many versions with each one becoming marginally better in performance.

The Apple programmers were hard at work however, and a total rewrite of the operating system was undertaken. GS/OS was finally launched to the IIgs enthusiasts. Speed improvements were dramatic and with each release of the System since (GS/OS runs from System 4.0) we noticed things getting better and better. Some work on the Window toolbox has now made GS/OS comparable to a Macintosh Classic in visible speed of operation. In fact with my TransWarp accelerator running on the IIgs, the GS/OS Finder seems to work faster than the Finder on my SE/30 running under the much vaunted System 7.0!

System 6.0 for the IIgs is on its way and this we are promised speeds things up even more. The Finder we understand has been rewritten and presumably has been harmonised with the new System 7.0 on the Mac.

### File System Translators

One of the major innovations introduced with System 5.0 was the introduction of File System Translators. It is interesting to note here that many of the features we have been enjoying on the IIgs for some time only now appear on the Macintosh with System 7.0. The long lead time and testing period on the Mac meant that we have these features first.





All commands sent to block storage devices, the screen or even the printer port, pass through an FST. This gives the programmer the flexibility to simply write standard IN/OUT routines to a common interface which will be correctly 'translated' as required. At present we have only got FST's for the Console (Character FST), AppleShare, ProDOS and the High Sierra formatted CD ROM's. In System 6.0 we are promised new FST's for DOS 3.3, Pascal and the Macintosh.

In practise the user does not need to know about the FST's running on their system. There presence will simply show by extra devices appearing on the Finder desktop. Those using AppleShare will see extra devices in this same way which may be anything from a Macintosh to a //e.

It has been mentioned that a ProDOS block device can be of any size up to 32mb and individual files being any size up to 16mb. This limitation is a limitation of a ProDOS directory only, not the GS/OS operating system. Under GS/OS we can therefore partition a device which is larger than 32mb into several logical 32mb ProDOS sections all of which are addressable through GS/OS. If the device addressed through an FST is not limited to 32mb then files up to 4 gigabytes long can be accessed as GS/OS uses a four byte length buffer. As well there is no strict limitation on device size as any device may be partitioned. At the moment anyone running the IIGs on an AppleShare network can address the whole of a Macintosh disk even if it is 200mb or larger! With new FST's on System 6.0 we should see no limitation as to disk size.

### GS/OS closely observed

GS/OS was a direct descendant of ProDOS 16, which was itself a direct descendant of ProDOS 8. The directory structure of ProDOS 8 was preserved for compatibility purposes. Within the P8 directory structure several bytes were not used within the file definition and so could be used specifically by GS/OS. This has allowed a two byte auxiliary type record for a file, as well as its main one byte filetype, to be added. This gives the programmer great flexibility. If he wishes to create a unique filetype for his program he can choose a single main filetype and then have 65536 different sub types to choose from!

Under ProDOS 8 we had only a single prefix available that could be set to simplify the use of partial pathnames. Complete P8 pathnames could only be 64 bytes long with individual filenames having a maximum 15 byte length. GS/OS has changed all of this. Multiple prefixes are available ranging from 0-31. Some of these prefixes are fixed and are used for specific purposes, others can be prefixed by the programmer for his own use. The user will not usually see these prefixes are there,

though if asked for a full pathname can include them if needed. The main prefixes are as follows:

- \* / Boot volume name
- 0 / Working path for standard file dialogs
- 1 / Pathname of directory holding current application
- 8 / Set to that of prefix 0
- 9 / Set to that of prefix 1

The @ prefix is special and is reserved for work directories on an AppleShare server.

### GS/OS pathnames

Pathnames under GS/OS 5.0 are defined in a similar way to ProDOS 8 but the maximum length is not fixed. When the programmer wishes to retrieve a pathname from GS/OS he builds a return buffer to collect the pathname. This buffer has a two byte length prefix which gives us a possible 64k pathname! In practice a 510 byte pathname will suffice for most purposes. If GS/OS reports this is not big enough the programmer can always address matters to make sufficient room. Filenames are still only 15 bytes long within a ProDOS device but may be any length as reported by an FST. Macintosh filenames can be up to 31 bytes long and programmers have been advised to allow 34 bytes for the new GS/OS System 6.0.

Only certain characters were legal under ProDOS 8 but anything goes under an FST. This has meant a flurry of modifications as programmers alter their programs to be System 6.0 clean. Echoes of System 7.0 on the Macintosh here!

### Calling GS/OS

The GS/OS operating system is addressed in a similar way to ProDOS 8. A parameter list is pointed to by the actual call with input and output space allocated. The main difference to ProDOS 8 is the increased amount of information that can be handled and that all calls reflect we are in a 16 bit world. A typical call is given below:

```
ldx #$2012      _ReadGS
jsl $E100A8     Dispatch vector
dc 14'ParmList' Address
```

### ParmList anop

```
dc 12'4'        Parameter count
dc 12'0'        Ref number
dc 14'Data'     Input buffer
dc 14'Request'  Number of bytes
dc 14'Transfer' Bytes transferred
```

As well as the familiar calls to Open, Read and Write files there are many that allow the programmer to handle the devices directly and also some which we never even saw within ProDOS 8. Device formatting is probably the most noticeable of those new calls.

### GS/OS and the toolbox

Although GS/OS is not directly part of the IIGs Toolbox, and the calls are made in a different way, the programmer uses both these types of calls in much the same way. A feature of the IIGs was the introduction of the Toolbox, something that until then was only seen on the Macintosh. Getting to grips with the Toolbox may seem daunting at first, but once grasped, the power unleashed for the programmer and the freedom to manipulate 'real code' without having to worry about mundane repetitive tasks, makes the toolbox a most potent ally.

Once a program has been written, if it is using toolbox calls correctly, it will instantly update itself when a tool has been updated or improved. The programmer provides the program shell, the tools do the rest. GS/OS itself works in a similar way to this providing its own set of working tools. Programmers using the GetPathName call found that their programs brought themselves up to date automatically with the introduction of the 'Volumes' button on the new System 5.0, where before they had only seen a 'Disk' button before. It took the Macintosh till the introduction of System 7.0 to get this button for themselves!

### Resource management

From the very start Macintosh files were constructed quite differently from any other file that had been seen before. They could consist of two forks. A Data fork and a Resource fork. The Data fork was simply that, a place where data could be placed. A word processing file for instance might consist of a single data fork containing ASCII text only. An application program might consist of a resource fork with all its code being placed into the resource and an empty data fork.

Although the resource fork can be opened directly it is not normally accessible in the same way that the data fork is. Resources, of which there can be many of many different types, must be called through the resource manager. On the Macintosh there is a code resource which actually holds the main program or at the very least code that will launch the main program. This resource is always run when an application starts and can then address other resources as it needs them. Information to build the various menus and dialogs on screen is usually held in resources.

The IIGs introduced a resource fork with system 5.0 of GS/OS. The prime difference between the IIGs and the Macintosh resource fork is that the first application code to be run is held in the data fork under GS/OS and in the resource fork of the Macintosh.

The real power of the resource fork lies in the templates that can be placed within a resource to build the various menus and dialog boxes. A template may describe the whole menu system

that the programmer has used, or just a part of it. These templates also hold the strings of text that are used within the menus. To change the wording from English to Swedish for instance is an easy matter. Any resource editor can alter the text strings without affecting the operation of the original program. If the user does not like the arrangement of the buttons within a dialog box, he can change them to a new layout. Be careful though, changing your favourite program in this way may tread onto dangerous ground and should be only done with extreme care! Resources are now a way of life on both the IIGs and the Macintosh. The visual shell of a program used to take a programmer weeks to write. Building the menus and dialog boxes of a program, can now be built in a very short time using a good resource editor. The favourite editor at the moment on the IIGs is Genesys. Its counterpart on the Macintosh is ResEdit.

Using resources in this way leaves the programmer free to build the logic of the program and not be bogged

down in unnecessary detail.

#### Where next?

There is a lot of mileage left in GS/OS. The base structure has been defined and as such is independent of the device being used for storage. I for one, when I heard we were to get resource forks in our IIGs files, wondered if we would see the IIGs using Macintosh disks for storage. I wanted to be free of the limitations of 15 byte filenames, 32mb drives, 800k 3.5 disks etc. True we have had 1.6mb 3.5 disk drives from Applied Engineering but these are not compatible with Macintosh 1.4mb SuperDrive disks and so become specific to those AE drives only.

System 6.0 for the IIGs is on its way. It promises us an FST to handle Macintosh disks and full support for the 1.4mb SuperDrive. This means that instantly we can have 1.4mb storage, hard disks of any size and all without changing our programs in any way. We just format our disks and hard drives to Macintosh instead of ProDOS! Those who have used AppleShare between a

IIGs and a Macintosh will have been gratified to see that ProDOS and GS/OS files and programs on the Macintosh server behave just as though they were on a P8 hard disk. A Macintosh FST will behave in the same way as AppleShare but without the need for a Macintosh!

#### Summary

The keynote of the 90's has been compatibility. First we saw programs such as Passport and Apple File Exchange that would allow files to be transferred between the ProDOS, Macintosh and MSDOS environments. The IIGs under GS/OS first saw File System Translators, the Macintosh is closely following we understand. With all these FST's in place we shall see a true transparency between devices formatted for the Macintosh or the Apple II.

Hopefully we shall then see the full power of the IIGs being realised with powerful and serious programs added to its repertoire.

Ewen Wannop - Apple II forever! 🍏

## The Concise History of the Apple Computer

*As SYSOP of TABBS I get asked many questions. Recently I was asked for a potted history of the Apple to help a Macintosh User see how all the various computers fitted into an overall picture. I thought it would be worth while sharing the answer to his message with you all.*

Alastair,

Sorry for the delay in answering your message, but you asked for quite a lot and so it has had to wait in the pile till I got round to it ...

Apple started out in the garage with the Apple I computer. Only some 50 or so of these were made and the line quickly turned into the now famous Apple II. We normally think of the Apple II as the start of the Apple phenomenon. In a variation of the original, the Apple II is still being made today.

All of the Apple computers until the Macintosh and the IIGs were based on 6502 8 bit CPU technology. The Apple II was a 1mhz 6502 computer with 48k of RAM and 16k of operating system ROM. The keyboard was not a complete ASCII set and was upper case only. Screen display was 40 columns by 24 rows text and HiRes graphics with 4 colours. The Apple II could use

a 5.25 140k disk controller in one of its seven slots. It was introduced in 1977 and was in production until 1984.

The Apple /// was introduced in 1980 as an attempt to capture the business market. It sported 128k of memory and an 80 column display using the same 6502 processor. It never took off in the way that Apple hoped and was killed off around 1984. It is now very cheap on the second-hand market.

The Apple //e was introduced in 1983 and had a 1mhz 6502 with up to 128k of RAM and with 16k of operating system ROM. The hires graphics were improved and could now run 16 colours as double HiRes. The keyboard was a full specification upper and lower case, and except for the omission of a keypad, has set the standard for all Apple computers since. This includes the Macintosh! It is still in production!

The Apple //c appeared in 1984. For all intents and purposes this was simply a portable version of the //e with a built in 5.25 disk drive. It is still in production as the //c+ now having a 3.5 disk drive and 1 mb of memory.

The IIGs appeared in 1987 and was a departure from the II line. It runs under a 2.8 mhz hybrid 65816 chip that can emulate a 6502 or run as a native 16 bit processor. In its emulation mode it thinks it is a //e and will run all //e and II+ software. In its native mode it can address up to 8mb of memory and has a 128 k ROM operating system. More importantly it runs under a disk operating system that looks and has the feel of the Macintosh and has a full toolbox programming structure like its sister. With accelerators fitted, the IIGs can out perform a simple Mac in many cases. It

is the standard computer used in US schools.

Parallel to the development of the II line was the Macintosh. The original planning work started in 1979, some five years before it was launched! However the Mac was not the first machine to appear. The development project introduced the Lisa in 1983. The original Lisa was a cumbersome overpriced machine with 5.25 disk drives! It was honed down finally into the Mac XL using 3.5 drives. The Lisa was stopped around 1985 when sales dropped through the floor. The Lisa did however set the standard of the desktop interface, introduced the first mouse on a computer and had true multi tasking long before the Mac.

The first Macintosh took the world by storm in 1984. It had 128k of RAM, a 400k single sided 3.5 disk drive (the first computer to have one) and came with MacWrite and MacPaint software. It could only print to the ImageWriter printer. Even with these limitations it was a success. It quickly evolved into the Macintosh 512k (the Fat Mac) and then into the Mac Plus with a staggering 1 mb of RAM! The disk drive expanded to 800k double sided with the Mac Plus.

Around 1985 the LaserWriter and PageMaker appeared. The combination of these two new elements with the Mac, kick started the DTP industry and with hard disk drives also appearing on the scene, the Mac took off and has never looked back. Paralleling all of this we had the IBM PC and its deadweight machines and software. They have never caught up with the joy, humour and power of the Mac!

Regards Ewen 🍏





# HyperCard GS

## Our resident HyperCard expert Mike Dawson reviews the IIGS version of HyperCard

To those of you who read the Mac side of the magazine the appearance of my name in the Apple II section will come as a bit of a surprise. As I'm a bit of a HyperCard enthusiast on the Mac I was asked to do a review of HyperCard GS as no one on the Apple II side was thought to be able to do it justice.

HyperCard for the Mac has been bundled free with all Apple's Macs for some years now. It has gained quite a following due to its versatility and ease of use by complete novices to programming. As such it has been called the programming environment for the rest of us, just as the Mac was called the computer for the rest of us. HyperCard GS owes its parenthood to HyperCard on the Mac and this shows throughout the programme. In fact the language, HyperTalk, is almost completely compatible with the Mac version up to 1.2.5. The latest HyperCard on the Mac, V2.02 has many enhancements which are not implemented in HyperCard GS, but more of that later.

### Introduction

First I shall attempt to explain the basic concept and uses of HyperCard before going on to describe the facilities and programming this remarkable software package provides. I say attempt to explain as HyperCard does not easily fall into any convenient category that we are familiar with. Everyone should know the cornerstones of the computer world. Wordprocessor, Database, and Spreadsheet etc. HyperCard can be all of these with differing degrees of success and ease of attainment. I prefer to describe HyperCard as an information handling system. The user or programmer, as you don't need know how to programme to use HyperCard, has a freedom to construct information systems in a way not available before. Text, graphics, and sound can be combined at will to enable the user to save, search and present information with flexibility. The best analogy to the real world I can think of is the humble card file. Here a name and address is stored, one to a card with additional information on that address as required. Additionally extra information such as graphics can be added. Links can be easily set up to switch

between cards and indeed stacks. Information can flow from one stack to another under programme control.

HyperCard is admirably suited to this type of flat file database as well as another area where it has excelled on the Mac, training. Many sophisticated programmes such as Excel (a Mac Spreadsheet) comes with a HyperCard stack based tutorial. Indeed Apple themselves have used this 'information' medium to inform us of the new TrueType font technology and the newly released System 7 on the Macintosh.

### The Manuals

The manuals come in three volumes starting sensibly with the introduction called "Getting Starting With HyperCard IIGS". This introduces the basic concepts of the HyperCard environment and details how to install HyperCard. All the basics are covered with buttons, fields, the message box (a command line) and very basic scripting (programming). So it quickly takes the reader from the basics to beginning to tinker with stacks.

The second manual is larger and is called "HyperTalk Beginners Guide". The manual is again well written with liberal examples used throughout. All the basic components are covered including containers (variables) and the actions of buttons, fields, backgrounds, cards and stacks.

The third and by far the largest manual at 368 pages is the "HyperCard IIGS Reference" manual. This is an excellent manual full of examples and details of the extensive HyperCard capabilities both graphical and programming. All the little ins and outs are included as well as a handy pull out card listing all the keyboard shortcuts.

In all the manuals are up to the excellent level we have come to expect from Apple. I cannot help but get the feeling that the manuals are aimed at school children but then perhaps I'm just getting old. The manuals do not however talk down to the reader and are all comprehensive and well thought out. In the final analysis not all the advanced programming issues are covered exhaustively which will leave the third party publishers with a gap to fill.

Nevertheless they are an excellent collection which will give the user a sound basis upon which to explore the programme. Amongst the subjects not fully covered are the generation and attachment of sound, XCMDs and XFCNs.

These manuals are what the Mac should have been provided with in the initial release. Apple have certainly learnt from the Mac experience and the mistaken assumptions that were made.

I should explain that last statement as when HyperCard v2.02 was released with its attendant books (the books hit the shops in America several months before the programme) the reasoning for the original manuals and commercial books were revealed. Apple, the HyperCard design team and the freelance authors assumed that very few of the people that used Macs would want to learn about how to programme in HyperTalk. The manuals and books therefore did not go into this side too deeply and concentrated upon the concepts only. The reasoning was that a few developers and companies would produce commercial stacks for others to buy and use. How wrong they were, after the release of HyperCard an explosion of stacks hit the USA user group libraries and bulletin boards. The rest is as they say, just history.

### Running HyperCard GS

The prerequisites required to run HyperCard GS is an Apple IIGS computer with at least 1 M Bytes of RAM and a 800k disk drive. Although I would recommend a hard disk with at least 2 M Bytes of memory available to be able to use this programme easily without a lot of disk swapping.

The programme comes on a total of six 3.5 inch disks which include additional stacks to help you build up your own ideas. The bare basic system is the HyperCard application and the Home Stack. Stacks are the "data files" that run under HyperCard.

To get started in using HyperCard could not be easier as there is an installer programme provided. All that the user needs to do is double click on the installer and the programme will do the rest. A word of warning here for users of large memory cards. I had a GS fitted with a 6 M Bytes memory card and the installer refused to load the programmes onto this. It will only load the files onto a mounted floppy or hard disk.

Once the installer has done its stuff all that remains to do is open the folder called "HyperCard" and locate the HyperCard application and double click it. This runs the HyperCard programme and loads the Home stack ready for use. The Home stack is like a base to operate from or home. It is from this stack that all other stacks are run. Indeed there are buttons to click on just like the finder to run other stacks automatically. With a little program-

ming effort it is possible to run other applications such as wordprocessors from HyperCard.

### HyperCard Concepts.

#### Home, Stack, Background and Card

HyperCard uses this list of components to do its work and each deserve an explanation.

#### HOME Card.

This is really a stack but most people only use the first card or home card. The other cards include a preferences card where the user can determine the amount of access is going to be given to the user. This can be as low as level one where only browsing is allowed, i.e. look but don't touch. Up to level 5 whereby anything goes in changing or deleting data, cards etc.

#### STACK

This is the depository for the individual collection of data, graphics and sounds that make up an individual stack's personality. The stack cannot function without the presence of the HyperCard application and the Home card as it is these two items that contain all the routines for the stack to run. Therefore the exchange of stacks relies upon the sender and recipient both having HyperCard GS. In short the stack will not run as a stand alone programme and nor can it at present be made to be. The stack has two major components, these are the background and card and are discussed next. Stacks are of a fixed size, the full screen size of the GS screen. It cannot be any other size or resized. This is in line with HyperCard 1.2.5 on the Mac but not HyperCard 2.02 which can have varying sizes based upon choice and available memory.

#### The BACKGROUND

The background can be thought of as a backing paper upon which any graphics, fields or buttons can be added. A background is shared by as many cards as is necessary (within limits) to present the data required by the user. The CARD can be thought of as the tracing paper which is overlaid on the background. It too can have graphics, fields and buttons but these will be available and visible only when that card is displayed. This is at variance to the background where the background features are visible to all

the cards that are allocated to it. A stack can have many backgrounds (again within reason) with it's attendant cards. The only restriction is that a card created for a background cannot be displayed against another different background.

#### CARDS

These are the pieces of 'tracing paper' that are placed in front of the background and can hold information unique to that card. The background can be seen and the fields on the background or card used by the card for holding information. The data in background fields will again be unique to that field on that card if the user requires.

#### Getting Started

The first thing to do when first confronted with HyperCard is to run the

can in flavour with the inevitable State and Zip Code. More interestingly are a couple of stacks, one to design 'Icons' and the other to move resources.

#### Graphics and Painting

HyperCard comes with a complete painting system that should satisfy the average aspiring artist. I'm not familiar with paint packages on the GS so I can't compare. All the accustomed tools are there in a tear off menu. For geometric precision a snap to grip command can be invoked as well as a fat bits to magnify the working area for extra precision. All of this is of course in colour which I found to be an interesting new dimension to this programme. Painting can take place on the background layer or the card layer with equal ease. Of course if there is some paint in the card layer it will obscure the paint text for the background layer so some care must be exercised.

#### In Use

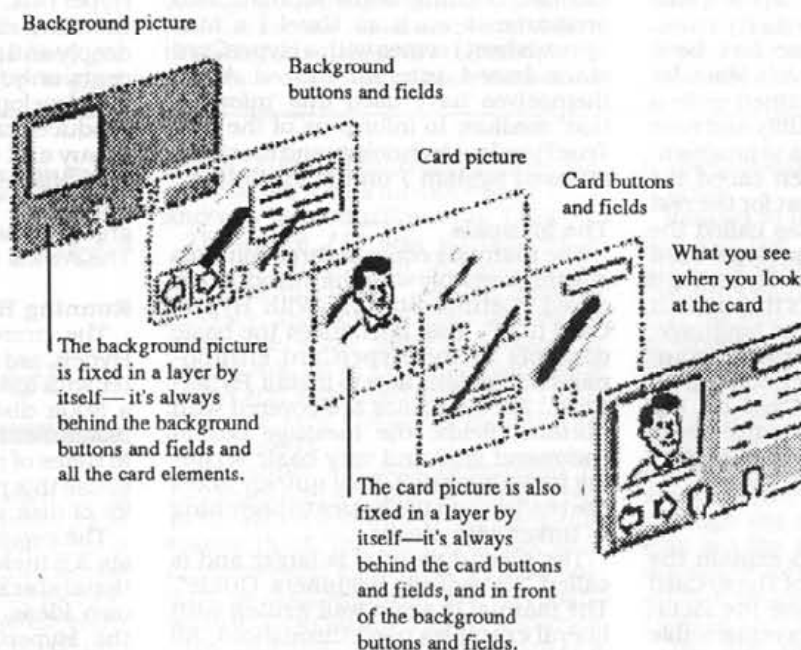
I found the operation of HyperCard GS to be almost identical to that of the Mac. One of the things to become immediately apparent was the long delay between clicking a button to change cards and the event to actually happen. This was not the delay because of a large shift in card movement say between the first and last card of a large stack. All I was doing was changing from one card to the next. This was the most noticeable delay. Other operations can seem a little slow with perceptible delays before action is ap-

parent. Moving objects such as buttons and fields was a bit frustrating. In all I would recommend the use of an accelerator card to get the best out of the system.

#### Fields

Fields can exist on the card or background level and be configured in several ways. By using a pull down menu a new field can be created. Double clicking on this field will bring up a dialogue box where the field can be configured.

This consists of selecting the style of the field which can be either 'Transparent' whereby only the text will be visible and not the outline of the field box and background graphics will show through. 'Opaque' where the outline of the field will not be visible but the graphics present behind the field will not be visible through the field. 'Rec-



HyperCard Tour. This is a stack which gives a tour of the major features and explains them in simple terms. Sound and animation are used to make the tour interesting with a little boy waving a magic wand to introduce the subjects. All this is in living colour which is a pleasant change to the monochrome world of the Mac HyperCard. There are other stacks on the discs which give suggestions for buttons, fields, background and card art. Amongst them there is a stack called 'Birds' which details seven North American Birds with a colour picture of each one. This stack is the subject of a tutorial in the manual which explains how to add an additional card complete with a new colour picture of a bird.

Also included are sample stacks to organise your address book and social calendar. Naturally these are Ameri-



tangle' specifies a plain line around the field so the user can see it's confines. 'Shadow' creates a shadow effect to the right and bottom of the field to give a 3-D effect. Finally 'scrolling' changes the style of the field so that the user is not limited to the visible area to type data into but can scroll the field to bring into view more space.

Other attributes that can be set are the text font and size, the border colour and the text colour. Finally there is a button on the dialogue box to enter the field's scripting window. All the attributes listed above can be manipulated and set using the HyperCard language, HyperTalk.

### Buttons

Buttons are created in the same way as the field above from the same pull down menu. In exactly the same way the attributes can be set for the style of the box for the button. The options are invisible, opaque, round rectangle, rectangle, shadow, check box and radio box. As before colour of the box outline can be set as can the colour of the foreground and background of the icon. An icon is selected from a large scrolling field that is presented upon call-up. There are a host of icons provided to get started with so don't think you have to design all of them from scratch. Again there is a button on the dialogue box to open up the programming window to type in the commands for the button's action.

If all you wish to do is to make change the card being viewed by clicking on the button then there is another option. A button on the dialogue box called 'Link To' will bring up another dialogue with the following options:

- [1] Link to this card
- [2] Link to this background
- [3] Link to this stack

By navigating to the card, background or stack of interest all that remains is to click on the option required. The card to which the button is to be replaced is then once again displayed. If the script of the button is viewed then HyperCard has filled in the necessary script to go to the card, background or stack selected automatically.

### The Programming Language (HyperTalk)

One of the biggest obstacles for the AppleSoft programmer is the differing terminology and the radically different philosophy of this product.

As HyperCard uses the same concept of programming as on the Mac a short explanation is required. Although I have called the stack a data file that is not strictly true. A stack will contain all the text, graphics, sound and programming required. However for some of the built in commands to work a stack will refer back to the home card where more programmes or scripts (in HyperCard parlance) exist. The Hyper-

Card programme itself also has programming code but we shall not call them scripts as they are not user modifiable. Sounds, XFCNs, Icons and XCMDs can be attached to an individual stack or the home stack itself. If it is in the home stack it will be available to all stacks. This concept is also true for the programmes or scripts used.

Now I shall introduce the completely new concept of object orientated programming. This was my one largest stumbling block when I converted from AppleSoft. In the BASIC language the programme runs from the top of the code list to the bottom. Sometimes the logic of the programme will loop back upon itself or go off temporarily to a subroutine. What is inexorable about it is that it will finally come to the end. HyperCard is object oriented programming where this model is thrown out of the window.

The organisation of the HyperTalk language is based around object orientated programming. This is to say that small programmes are attached to the constituent and relevant components of the stack. These are the buttons, fields, cards, backgrounds and the stack itself. HyperTalk awaits an action by the user before starting to do any processing.

As an example I shall use a button. This will sit on the screen passively until something happens to it. Such 'events' include if the cursor is moved into it's confines or if the mouse button is clicked within it's area. Therefore a button to switch cards upon a mouse click would read:

```
on mouseUp
  go next card
end mouseUp
```

This is called a 'handler' as it handles the event of the mouse button being released or moves 'up'. When this event occurs whilst the mouse pointer is within the confines of the button area the handler catches the message 'mouseUp' and executes the command 'go next card'. This makes HyperCard switch the view of the user to the next card in the order of the stack. Should the user be already viewing the last card of the stack the command will simply roll the stack over and display the first card just like a Rolodex card system. Other events that can be detected by a button are:

- [1] mouseDown — detects the mouse button being pressed 'down'
- [2] mouseEnter — detects the mouse cursor entering the confines of the button on the screen
- [3] mouseLeave — detects the mouse pointer leaving the confines of the button on the screen.
- [4] mouseWithin — is repeatedly sent whilst the mouse pointer is within the confines of the button on the screen.

Other system messages exist for other events such as 'openCard' when a card is displayed or opened. 'CloseCard' when a card is left or closed. 'OpenBackground' when a new background is entered or displayed and 'closebackground' when a background is left or closed. Fields are also catered for with their own series of messages. Even when HyperCard appears to be doing nothing at all or idling then there is an opportunity to have some work done. There is a system message called idle which catches all the time that other HyperCard activities leave spare. So if we have created a card field called 'TIME' and put the following handler in the card level of the stack the following would be entered:-

```
on idle
  put the time into card field "Time"
end idle
```

If the previous section has left you thinking that you must learn to programme in HyperTalk to use this programme then I am guilty of misleading you. HyperCard comes with a stack called 'Button Ideas' which has buttons ready made with icon and script. These include the basic navigation buttons that will enable the most complete novice to build a simple stack.

With the aid of the manuals the new user will quickly get to grips with this powerful programme. Previous experience with AppleSoft will be an advantage as long as you throw away the old ways of top down programming.

As an exercise I decided to re-write a stack I had produced in HyperCard 2.02. This is an index of all the Apple2000 magazine articles to date. I hope that this will appear in the groups library for other members to use and learn from. During this exercise I had one major task to achieve. This was to convert the scripts of HyperCard 2 into the less powerful HyperCard 1.2.5 (Mac) or GS. Initially all went well with all the commands I was used to working with operating as expected. That was until I came to the scroll command. This entailed calculating the amount of 'scroll' of a scrolling field. I wished to make a field into a button so that the user could select an article on a search card and automatically go to the full magazine listing. Making a field into a 'button' is not as perverse as it sounds and you should look at the stack (or it's Mac big brother) to see how useful it really is to do this. Here I found the one and only difference I was to come across. Things just did not work as expected in the GS version so I wrote an identical script on both the Mac and GS in a field of identical attributes. This revealed that there was a complete difference to the result to the variable 'scroll' as in:-

```
get the scroll of background field
"Magazine List"
```

In the HyperCard Mac version the

value returned is a function of the line height in pixels and the out of view scrolled lines. In the GS version, despite what the manual said, the result was a function of the number of lines that the field had scrolled out of view. I therefore modified my script accordingly and all was well once again. As my exercise did not cover all the commands and functions available to the programmer there may be other differences lurking for the unsuspecting.

#### ICONS, XCMDs, XFCNs AND SOUND

HyperCard GS appears to treat XCMDs, XFCNs, Sounds and Icons in the same way as its Mac big brother. This is done by attaching these 'resources' to the stack and thereby make them available to that stack for use.

Taking the above items in sequence I will endeavour to explain each of them in turn:

##### Icons.

Icons differ from the Macintosh in not only being in colour but also capable of being designed outside the Mac's limiting 32x32 pixels. This gives the GS version a greater flexibility but will present problems to those of us who will be trying the convert stacks between the two machines. The making of ICONS on the GS is simple made even more so by the stack making the necessary colour mask automatically upon demand. The stack will then attach the icon you have created to a target stack for you. The selected stack to receive the new icon button will then open and the new button being selected ready for positioning.

However this always appears on the first card of the stack and if the button is required anywhere else then it is left to the user to copy it, delete the unwanted one and then go to the desired page and then paste it. Once the ICON has been attached to a stack it can be selected by any button you choose.

The first time I used this utility stack was when developing the Apple2000 Index stack the placing of a new icon and button failed. This I discovered through some experimentation to be the fault of my stack. Upon opening of the stack I have arranged for an opening banner to be displayed before automatically going to the next page. This automation made the placing of the button fail. As soon as I disabled the running script and repeated the placing of the new button all worked OK.

This utility gives the programmer a complete freedom to develop the Icons of their own choosing. By carefully designing a series of icons used in buttons simple animation can be made. This is done by cycling the icon viewed in the button under script (programme) control

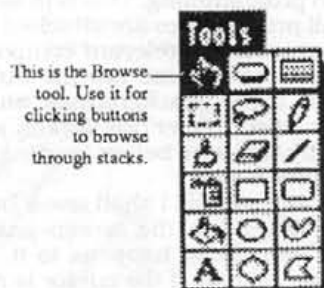
##### XCMDs

External commands or XCMDs are pieces of code that perform add on features to the range of HyperCard

commands. One such XCMD is provided with the system which adds the capability of a user created menu bar and pull down menus. This adds considerably to the power and functionality of HyperCard. Other such pieces of code will undoubtedly become available from others as happened on the Mac. As an analogy an XCMD can be thought of as a Timeout programme added to AppleWorks. XCMDs are in machine code and therefore will run considerably faster than if the same thing is achieved in HyperTalk which many can.

##### XFCNs

An external function or XFCN adds a mathematical or manipulative function not otherwise provided by HyperCard. This can be thought of as a subroutine except that the code will be in machine code and not HyperCard Script. This makes the routine run much faster of course. The function



that a machine code programmer can provide for example the dissecting of a string or a particular sorting routine.

##### Sounds

HyperCard has the capability of playing sounds not only as a complete sound, as recorded but it can also play sounds. This is because through HyperTalk sound pitch, key, duration and tempo can be controlled. So a sound can be made to play a tune without having to record the full piece. In fact a hand clap can be used to play a piece of Beethoven. HyperCard cannot record sound itself and the manual does not say how this can be done but there must be some hardware around for the Apple IIGs that can do the job just as there is for the Macintosh.

The important thing to note about Sounds, XFCNs, XCMDs and Icons is that they can exist anywhere. That is to say they can be attached to a stack whereby only that stack can access those additions. Alternatively these items can be attached to the Home stack and thereby be available to all the stacks that run from it. Finally it is also possible to attach them to HyperCard itself.

#### Differences Between Mac & GS Versions.

Although there are small differences between the Mac version 1.2.5 and the GS there are bigger differences be-

tween the Mac version 2.02 and the GS. These include enhanced text handling allowing mixed fonts and text size within a single field. User programmed pull down menus are an integral part of HyperCard 2.02, and not an XCMD as in the GS. Additionally HyperCard 2.02 can run several stacks in parallel (up to 10) whereas the GS version can only run one at a time making the user switch stacks to transfer information. These enhanced features will make a tantalising prospect of file conversion fraught with difficulties. I am talking about converting Mac Stacks to GS ones and visa versa.

Apple are promising two utility programmes to enable HyperCard stacks to be moved between HyperCard GS and the Mac. I tested a beta version of these but although the GS version seemed to work the Mac version refused to run. I cannot therefore report first hand on their effectiveness. However the documentation that accompanies the HyperMover stacks claims the following capabilities. I have parsed the text down to extract the most important points :-

##### Graphics

The Apple IIGS (4-bits per pixel) and the Macintosh (1-bit per pixel) have different screen sizes. Therefore, graphics moved between the two machines need to be modified to fit and display properly.

##### Screen Coordinates

Just as pictures must be scaled to fit the destination card size, buttons and fields must also be scaled so that they appear in the correct locations on the destination card. However, buttons and fields are objects and they may be scaled with no distortion.

##### Scripts

Scripts converted from one machine to another will require modification to function properly if they rely on specific screen coordinates. Because of the differing screen sizes, these scripts will need to be modified by the user.

Scripts that rely on features specific to one machine, such as the colour properties of HyperCard IIGS or specific commands in HyperCard 2.0, will also need to be modified by the user to work correctly.

##### Animation Sequences

Animation sequences that use system icons and refer to them by ID will need to be modified after the stack is converted.

#### What HyperMover Can Do:

- ☐ Create scaled representations of pictures.
- ☐ Convert Macintosh sounds to IIGS sounds and vice-versa.
- ☐ Transfer all HyperCard objects including backgrounds, cards, buttons, and fields and their attributes.



- ❑ Convert and scale Macintosh icons and cursors to IIGS icons and cursors.

#### What HyperMover Cannot Do:

- ❑ Convert XCMD/XFCNs.
- ❑ Fix scripts that depend on specific screen coordinates to function.
- ❑ Alter scripts that rely on features specific to one machine.
- ❑ Maintain the ordering of buttons in relation to fields.

To continue, there is no mention of HyperCard file conversion in the manuals supplied with HyperCard GS. So it is open to conjecture as to whether these will be full commercial add ons or released upon the freeware system. There is no upgrade card supplied to suggest that it might be to follow later. However there is a registration card so upgrades are a definite possibility.

#### Conclusion

This is an almost complete replica of the HyperCard v1.2.5 for the Macintosh. It's closeness to the original Mac product is remarkable to say the least. I immediately felt completely at home. The ease of using the interface was a painless introduction to the big difference between HyperCard GS and Mac, i.e. colour. Considering the complexity of the programme and it's potential I am amazed that Apple have got it to work so well on a 16 bit Machine running at such a low speed. This of course is revealed when changing cards as hi-lighted before. I would think an accelerator of some kind is a must if the impatience factor is not to stop some people using this programme. Throughout the period of the review the programme did not crash once and has been extremely stable.

If the Macintosh experience is to be taken as an object lesson then I fully expect to see an explosion of home made stacks full of information such as address books, index making stacks of floppy discs, atomic tables of the basic elements and other such educational and informative stacks. An added impetus will be the promised conversion programmes to enable a Mac stack to be transferred to the GS. I fear that a lot of work will have to be done on any stack converted in such a way.

The stack I wrote as an exercise revealed one such unusual and unexpected difference. As I could not convert the stack directly it was a complete rewrite. If you are thinking that I typed in all the magazine details again you would be wrong. I'm not that dedicated when the sun is shining and the pubs are open. I wrote a little routine in a button on the Mac to create a text file of the magazine listings. I ported this across to the GS via the Mac programme called Apple File Exchange which allows the Mac to read/write ProDOS disks. I then wrote another little button routine to read it back in

on the GS. There, so now you know I'm lazy too.

Considering the length of this article I have only scratched the surface of this programme. I believe that it will have a big impact on the Apple IIGS world. The user now needs to have little or no programming knowledge to be able to create impressive looking programmes. The driving force will of course be the USA where the largest base of Apple IIGS's are present. The educational establishment in particular will love this programme.

It must be said that it is a shame that Apple UK have chosen to ignore this excellent package and not distribute it in this country. This does not of course come as any surprise to us as we all know just how enthusiastic Apple UK have been to the whole Apple II product line. Personal importation is the only way currently to get hold of this package as we at Apple2000 HQ had to do. I believe it well worth the effort.

#### Suggested Reading List

At present as befits a new programme of this depth and complexity there are no good books to be had for the prospective programmer. You may therefore turn to the Macintosh book arena for assistance. You must of course make allowances between machines and some of the terminology will be different such as "open-apple" key becomes "command" key. Apart from that and the advanced stuff there are some good books to be had. Even more so as HyperCard for the Macintosh is now at revision 2 and therefore some of the following books could be possibly picked up cheap second hand.

So below are some of the best books I've come across for HyperCard for the Macintosh.

*The Complete HyperCard Handbook for version 1.2 By Danny Goodman*  
Bantam Computer Books.

This was the first and the best of the HyperCard books and has rightly been called the HyperCard bible. WARNING There was an earlier version of this book for HyperCard 1.1 and a supplement issued later to update it to HyperCard 1.2 so look out for this and be sure to get the complete book for Version 1.2.2 which is an amalgamation of the first book and it's supplement. The actual tutorial for programming are thin on the ground so if you want to get into programming only then the next book is more suitable.

Do not buy The Complete HyperCard Handbook Version 2 as this will detail HyperCard version 2.0 and features not available to HyperCard GS. Although to be fair the differences between versions 1 and 2 are well flagged.

*The Waite Group's Tricks Of The HyperTalk Masters*  
Hayden Books. ISBN 0-672-48431-5

This is an excellent book which skips the WOW this is HyperCard explana-

tion of the basics and gets into the HyperTalk tutorials. Not all the book will be relevant to the GS version. However I would recommend it as this was the book which really helped me to get into scripting. It was the step missing from the complete HyperCard handbook. It's scope covers icon animation, synchronising sight and sound and how to script for speed. I don't know how relevant this section is to the GS but it's still thought provoking reading never the less.

*Danny Goodman's HyperCard Developers Guide*  
Bantam Computer Books. ISBN 0-553-34576-1

For those who wish to investigate the presentation issues of producing stacks for others then this is the book. Danny Goodman produced some of the early HyperCard products for the Mac and therefore knows what he is talking about.

#### Finally

My thanks to both Elizabeth Littlewood for loaning me a complete Apple IIGS system including a hard drive and her husband, Bill for going without his Apple IIGS for the time it took to do this review, a supreme sacrifice. Also my thanks to Bidmuthin Technologies for loaning Apple2000 a RAM card for the duration of the review so the machine had enough memory available.

Finally with regard to the ratings below I must point out that as a self confessed HyperCard freak I might be a little biased!



Mike Dawson

info

Product : HyperCard GS  
Publisher : Apple  
Available from :  
Resource Central, Inc.  
P.O.Box 11250  
Overland Park  
KS 66207  
U.S.A.  
Price : \$99.00 + shipping

Value : ★★★★★  
Ease of use : ★★★★★  
Documentation : ★★★★★

# Caddraw and Cookie Cutter

or Peter Davis suffers the Stockholm syndrome as he reviews a ComputerAided Drafting package

## ... from Kitchen Sink Software

Caddraw is a high resolution graphics package for producing and printing scale (yes, it does) drawings rather than art. A library of common symbols (viz. electronic, flow chart, etc) are provided which can be included in the drawings. Cookie Cutter is a compatible or stand alone shape editor, for generating or modifying up to 255 "standard" symbols in a single table. It is accessible from within Caddraw. Printing routines require enhancement using Beagle Bros Triple Dump.

The essential features separating these programs from paint programs is that what is drawn can be made to honour notional vertical or horizontal axes. Straight lines can be drawn at fixed or intermediate angles from a specified point. Simple outlines can be created, by entering the dimensions for plan, front and side elevations. Even isometric views can be specified in advance. Circles, arcs, ellipses & polygons can also be drawn around centres. Two drawings can be superimposed to "trace" dimensions. If you use the mouse to draw a vertical or horizontal line, the little deviations of your shaky hand need not show providing you fix one of the axes. The two programs can happily coexist in the same directory or they can be in two drives. In either case they can be called one from another.

## Hardware

The programs come on single 5.25" disks and will operate on any 128k Apple II +/E/e/c/GS, some clones included (64k versions of the program can also be obtained). All drawing can be manipulated using the keyboard, but there are facilities for using other input devices; the Mouse, paddles, joystick, Koala Pad, Gibson Light Pen, VersaWriter. Both programs are written in Basic using MicroDot.System for Caddraw and Basic.System in the case of Cookie Cutter. Hard disk operation has been catered for, though all initial configuration, must be carried out on 5.25" disks.

On the GS you need Alternate Display ON, Colour, White on Black to see some displays.

## Caddraw

As you enter Caddraw you are presented with a large number of options on 40 column screen, called the "Library". It has an anti screen burn feature. Touching <ESC> brings you to the graphics screen at once, which may be in one of 3 modes which are easily identifiable. Text mode is represented by a flashing arrow indicating the direction in which typing takes place, conventional, upside down, up or down. (The screen may be toggled Full or not Full, when the lower quarter of the screen contains various information including cursor coordinates, rotation ...) Plot mode is indicated by a flashing radial line growing from a fixed axis, or it may come into view with multiple cross hair cursors, some of which may flash. Symbols mode appears with a flashing symbol cursor which can be moved with mouse or arrow keys. Symbols are incremented with the plus or minus keys. Touching the mouse button or the space bar plants the symbol on the page.

Each symbol table contains 50 to 95 different symbols. You can choose standard symbols tables from this list.

```

.....
20-STANDARD SYMBOLS
21-ARCH SYMBOLS 1/4
22-FURNITURE " 1/4
23-LANDSCAPE "
24-ARCH SYMBOLS 1/8
25-FURNITURE " 1/8
26-TYP. SECTION 1"
27-ELECTRICAL
28-PLUMBING
29-ARCS/ELLIPSES
30-ELECTRONIC
31-FLOW CHART SYM.
32-RAILROAD
33-USER DEFINED
34-USER DEFINED
35-USER DEFINED
36-USER DEFINED
37-USER DEFINED
38-3RD PARTY TBL.
39-3RD PARTY TEXT
.....
  
```

The library screen allows selection of other modes or help screens which are used to achieve the following:-

## Escape:

Enter Graphics Mode. Text, Symbol, or Plot

## Primary:

Call Cookie Cutter, Centering/Border, Catalog, Load, Save, Scale, Quit

## Symbols:

Present a list symbol files to load.

## Color :

Options for colour in graphics presentation. Special Functions: Disk Format and File Copy & Save. Switch Drawing between Page 1 and Page 2, call a grid, Layer (superimpose Page 1 and Page 2). Mirror, Preview, Mouse calibration, Configure Caddraw, Print Drawing.

## Commands Chart:

[See Figure 1], (also available in graphics <C> mode).

## Drawing and printing in Caddraw

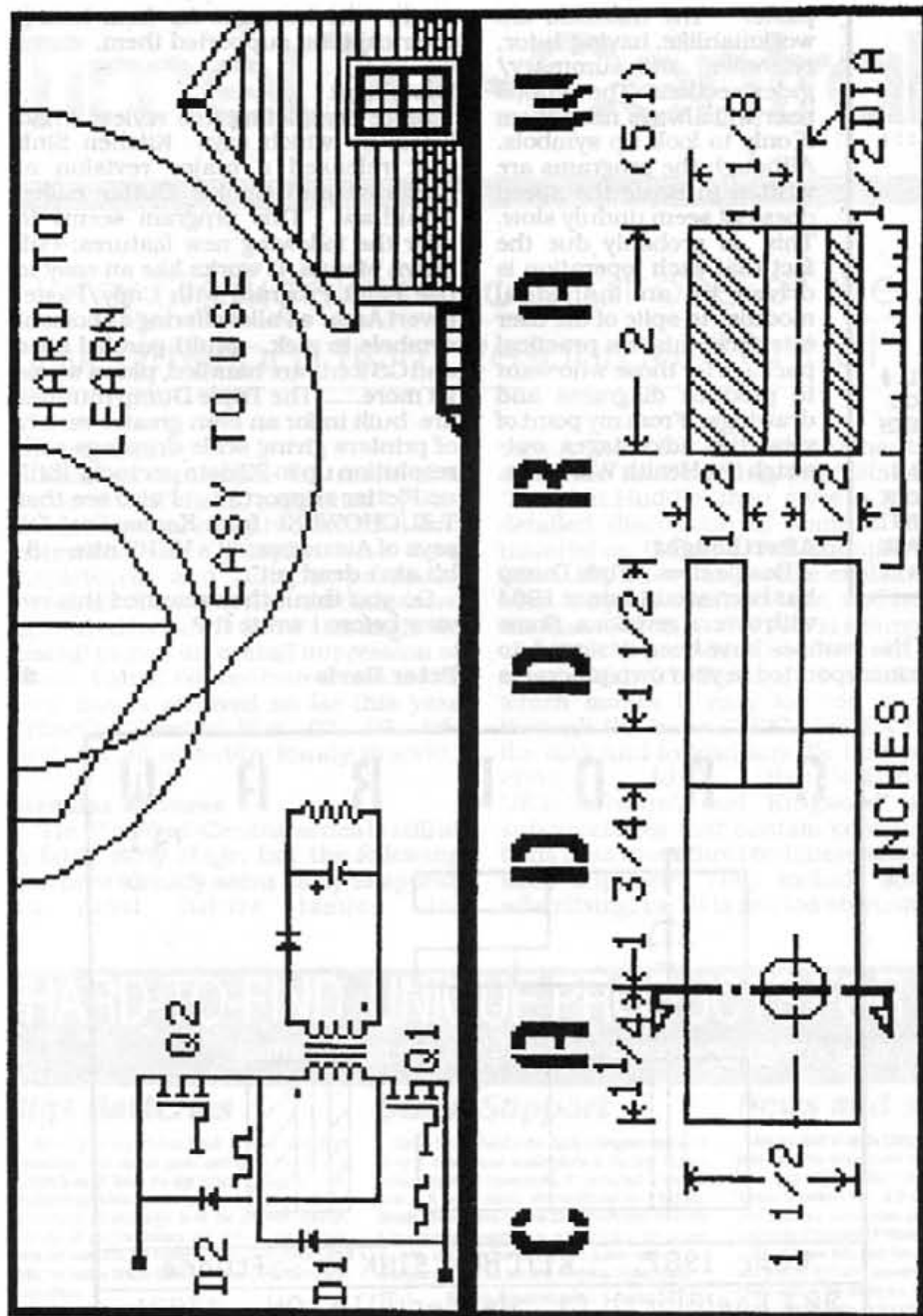
The table above is always accessible in drawing mode by touching <C>, as is the jump. Jump (1.6.24) is the distance moved by touching an arrow key, the value is toggled by <RETURN>. Touching an arrow key disables the mouse, response from the mouse (or other input device) is restored by <Q>.

Most conventional drawing "tools" are available, but the whole slant is towards precision and accuracy. The flashing cursor makes the mouse movement appear to be jerky, though it is not. When using the mouse it was very useful to invoke the SNAP function which is designed to make cursor movement in jumps of say 10 pixels. A setting of this kind will allow you to place symbols on a notional 20 mm grid making exact alignment a simple matter. In practice I found that the arrow keys were best for most operations; set at <1> (one pixel) for tracing round some subtle part, then at <24> for rapid movement across the screen. The <E> (erase) function worked well, you simply choose a suitable symbol from something large down to a pixel.

Figure 1

- C A D D R A W C O M M A N D S -		
SYMB. ONLY	PLOT ONLY	ALL THREE MODES
ROTATE	ARC/CIR/EL.	DRAWING PG.
SHAPE	BOX	ERASE DRAW
OR +/-	HIDDEN LN.	FUNC/ F-SCREEN
*^=MAGNIFY	POINT SET	K=SKETCH MODE
0-9 WORK	SOLID LN.	MEASURE RESET
W/SHAPE	VERT. MOVE	NO FIXED AXIS
	WEIGHT/LN.	PLOT MODE
		QUIT KEYBOARD
		SYMBOL MODE
PRESS ANY KEY...		TEXT MODE
		UN-SKETCH
		X=FIX X AXIS
		Y=FIX Y AXIS
		Z=II+ DIR.TOGL.
		!^=CLEAR SCR.
		SP-BAR - DRAW
		ESC = LIBRARY
		>=SCROLL UP/^RT
		<=SCROLL DN/^LF
		.....
TEXT ONLY		
BEGIN WRITING		
CTRL+END WRITING		
CTRL+LOWER CASE		
CTRL+UPPER CASE		
		.....





The superimpose function flashes (pages 1&2) in rather an uncomfortable manner, but you can also overlap two drawings on separate pages which is very convenient method of picking off dimensions.

There are minor problems in Caddraw. When using Magnify, some symbols may have aberrations which are not present at the smallest magnification. However this is a very useful start for creating a larger symbol.

The printing routines allow you to select 1/3, 2/3, and full size. Using my Imagewriter I, I can take a rule to a drawing of full sized object 5" long and it measures exactly 5" long. The printout speed is quite satisfactory. Documentation provides information on 32 printers, highlighting those (60%) that print to scale.

Although Caddraw works alone, in

my opinion you must have Cookie Cutter (plus Triple Dump) for acceptable usage. To install any Triple Dump Printer routines on Caddraw, you need to use Cookie Cutter first.

#### Cookie Cutter

Cookie cutter allows you to create symbols, alternately you may add at any point, rearrange, delete, or combine symbols tables. You acquire a new symbol by "capturing" an image on the high resolution screen. You can easily recycle something you have already created with Caddraw, or you can make a design from scratch and then capture part of that as a symbol. The largest block you can capture is 4608 pixels, or about 1/11 of the high resolution screen.

Capturing can be carried out by Block, Scan or Trace methods which

may be performed separately or together. The block process is the easiest for the user but slowest. Scan is also automatic but will not capture the last pixel. Trace requires that you follow the shape with great care using a small cross hair cursor.

There are similar features for printing, saving and cataloging as in Caddraw.

Figure 2 shows the command screen for Make/Add/Delete/Rearrange/Delete/Combine Symbols.

The program can be configured to load and catalog drawings or shape tables from any specified Drive or ProdosPath. Graphics screens may be dumped to the printer. Table analysis presents: SAMPLE Length of table 2283 Bytes Number of Symbols 43. Individual symbols can be analyzed under rotation or enlargement. Symbols may also be drawn or xdrawn. Vector dumps may be sent to the screen or printer.

#### 1/2" Kitchen Plan Symbols and 1/4" Exterior Elevation Symbols

These two packages contain additional symbols for house design and kitchen layouts. There are about 20 Exterior and 26 Kitchen symbols tables. In use, you have all the ease of use that you get from a very comprehensive builders catalog (grin). The symbols are well designed and each pack is supported by a well illustrated manual. The packages both contain a "Symbol table and Font Installation Utility" which is a convenient method of adding, deleting symbol tables to be accessible from the Caddraw library, in addition Beagle fonts of the Font Mechanic type can be transferred to Caddraw. Obviously these symbols could be used with any other program using standard shape tables.

#### Bend Forge & Bench Projects and Wood Projects

Each pack contains some 30 drawings in various views. These are examples of elementary machine drawing and could be useful to someone wanting to learn.

#### Reservations

Sadly the sheer number of features incorporated within CADDRAW and COOKIE CUTTER, make these packages not the easiest to use. There are 67 library commands in Caddraw, which is quite a lump to get hold of. To give you a flavour of what I mean; <12> to load a drawing, <16> to catalog a disk, <19> to Quit, <67> to print out. Help screens are available for nearly all operations, the manuals cover 99.0% of what you need but they require scrupulous attention at the learning stage. The words in the manuals were just not enough to describe the more enigmatic concepts, and some functions are better tested a few times before they can be grasped. It has to be said that the user interfaces look quite daunting when you first see them.

**Figure 2**

```

CADDRAW SYMBOL MAKER/EDITOR +
.....
COOKIE CUTTER
.....
A = MOVE UP          ADD SYMBOLS
BLOCK
COMMANDS
DONE EDITING
ERASE SYMBOL
FULL SCN./FUNCT
LOAD DRAWING          SP.BAR=DRAW
N (DEACTIVATED)       RTN = JUMP
QUIT KEYBOARD         ESC = STOP
SCAN"                1-9 = SYMBOL #
TRACE                +OR- A SYMBOL
Z=MOVE DOWN          ! = CLR.SCREEN

SYMB.# = 18   READY TO BEGIN.  -> DRAW
JUMP=1        BLOCK
X = 126       SCAN
C   Y = 87    TRACE
.....

```

They are the very opposite of intuitive, so it is fortunate that there is just a thread of consistency between the two applications. Some operations are so quirky, that I had to work my way round them. For instance, I found that calling for circles was unpredictable, it was very much easier to ask for a polygon with 50 sides.

The manuals leave out the odd 1%. Here is just one tiny item not covered; when you QUIT from CADDRAW you drop into "Microdot System Basic". To the uninitiated this might as well be stasis. The manual expects you to know that the equivalent of "BYE" is "&Q" in order to get back to your program selector. Cookie Cutter is rather less obscure at first sight, but even more practice and fiddling is called for before you cry "EUREKA!" Readers may think this is good plug for the GS or the MAC, but then within these limitations, both programs do their job with reasonable speed and competence on the 8 bit Apple II.

### Conclusions

Hard to learn but easy to use! The programs are totally solid deep in subdirectory or using just one drive.

Like the man on the road to Damascus, I have been reluctantly converted to this software. With practice it works well, and it enables the Apple II to produce handsome diagrams. I only tried these packages using the arrow keys and the mouse, which was smooth and responsive. The capacity to draw figures around placeable X/Y cursor coordinates, the power to honour axes, and the ability to preplan rather than draw outlines, make these programs touch a sphere of graphics which is not easily accomplished in more expensive packages. The process of adding to, reorganizing and modifying symbol tables though complicated, makes for great flexibility. It is a pity that there is no facility the enlarge (zoom) part of an image, or to copy and

paste. The manuals are workmanlike, having tutor, reference and summary/index sections. The serious user will always need them if only to look up symbols. Although the programs are written in Basic the speed does not seem unduly slow. This is probably due the fact that each operation is driven by an individual module. In spite of the user interface, this is a practical package for those who want to produce diagrams and drawings. From my point of view the advantages outweigh the Health Warnings.

### Afterthought

Beagle Bros Triple Dump has been around since 1984 with several revisions. Some of the routines have been designed to be incorporated in your own programs

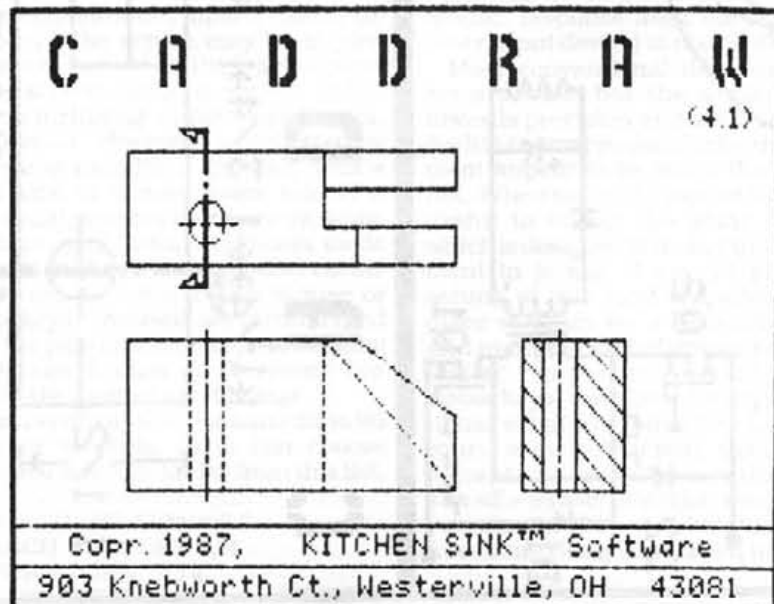
math, the hostages far from hating their captors, supported them.

### Postscript

Since completing this review, I had literature which says Kitchen Sink just released a major revision of Caddraw and Cookie Cutter called Accudraw. This program seems to offer the following new features: Pull Down Menus. It works like an easy to use Paint Program with Copy/Paste, Invert Area, a Pallet offering a choice of symbols to pick. Multi-parallel lines and GS fonts are handled, plus a whole lot more..... The Triple Dump routines are built in for an even greater variety of printers giving scale drawings with resolution up to 72 dots per inch. (Still no Plotter support.) I also see that T.ZUCHOWSKI from KansasFest '91 says of Accudraw; "it's VERY nice— 8-bit ain't dead yet".

Do you think they scanned this review before I wrote it?

Peter Davis



and allow you to use a Basic CALL to make dot matrix printer dumps of anything on screen from Double Hi-Res graphics to 40 column Text. The package itself will also allow you to load printable data direct from a file, then reverse, crop, rotate, magnify or shrink, before transferring it to hard copy. Triple Dump is easily configured using the very comprehensive range of printer and interface options supplied. The Data for your particular combination can be saved to disk for convenient use in future. This Data plus the Dump routines are transposed to the Kitchen Sink Programs during the installation process. (Also available from MGA).

*Stockholm Syndrome.* (Psych. late 60's) First applied to passengers held hostage by terrorists for many weeks at Stockholm Airport. In the after-

### Published by:

Kitchen Sink Software Inc  
903 Knebworth Ct.  
Westerville Ohio 43081  
USA  
Telephone: 010/614/891/2111

Caddraw	£49.95
Cookie Cutter	£34.95
Bend Forge & Bench Projects	£16.95
Wood Projects	£14.95
Exterior Elevation Symbols	£24.95
Kitchen Plan Symbols	£29.95

### All available from:

MGA SoftCat:  
Telephone: 0797/226601  
41 Cinque Port Street  
Rye, E Sussex,  
TN31 7AD





in each issue discusses one or two selected products in the TimeOut series in some detail (e.g. TimeOut Utilities, Desktools 1 and 2, and FileMaster). Issue .04 of TimeOut-Central also gave a description of how to install TimeOut on 5.25" or 3.5" disks. (1) The 'Regular.Goodies' files on each disk provide a nice human touch by talking about significant personalities in the Apple II world: Alan Bird, Dan Verkade, Randy Brandt, and Mark Munz have been the subjects so far. 'Regular.Goodies' also describe and explain some of the lesser-known TimeOut products (and other AppleWorks enhancements): TimeOut PowerPack and SpreadTools, and Companion Plus have been covered in 1991.

#### Other contents

Besides the material summarised above, each TimeOut-Central disk has contained a large number of other useful and interesting items, most of them related to TimeOut UltraMacros. An almost bewildering variety of macros has been given, covering many uses and interests. Just for instance, there have been macros that help you: to draw boxes and lines in AppleWorks; to type fractions that print out correctly; to change date formats; to calculate elapsed time; to add new categories to a database; to pick text files from a list; to carry out Cloze tests (these are used in Teaching English as a Foreign Language); to check grammar in word processor documents; to remove unwanted files quickly from disks; and to print graphs in colour via TimeOut Graph. These are merely a few examples from many! A large number of these macros have been given in sets provided by several individual enthusiasts and experts. Most of the macros are designed to be useful in some way, but there has also been occasional light relief in the shape of macros which enable you to play games (e.g. Mastermind, Draw Poker, and Hangman).

From time to time, the TimeOut-Central disks also contain some very significant TimeOut applications. Issue .04 included 'TO.Macros2Menus', which allows any UltraMacros macro set to be made into a TimeOut application so that it can be accessed via 'Open Apple-Escape'. The same issue also had 'TO.BasicCat', which enables you to catalog disks in more detail than AppleWorks normally provides. Issue .05 contained 'TO.Mousetext', which makes it delightfully easy to incorporate Mousetext directly in a word processor document. A further three TimeOut applications were given in disk .06, and this disk also had several interesting items of other kinds. One was QuikView, a useful program that enables you to read AppleWorks word processor files quickly and easily, outside AppleWorks. An interesting experiment was the inclusion of AppleWorks word processor files con-

taining text from the first half of Mark Twain's "The Adventures of Huckleberry Finn". The same disk had a demonstration version of GRIDS+, which enables you to print forms of various types via AppleWorks plus TimeOut SuperFonts.

#### Overall comments

So far, the main emphasis in TimeOut-Central has been on items for use with TimeOut UltraMacros, and this general pattern seems likely to continue. However, I am glad to see that attempts are clearly being made to include a larger proportion of material about other TimeOut products as well.

Each of the TimeOut-Central disks has been packed full of material (over 100 files per issue), and I have found them stimulating as well as useful. A multitude of macros are provided with each issue, and I find it enjoyable and interesting to go through these, trying to decide which are likely to be genuinely useful to me in practice. Also: if you are interested in trying to write macros yourself, it is worthwhile to go through some of the many macros on these disks in detail. This is a good way to learn and to improve your skills.

#### Final remarks

For people who use TimeOut UltraMacros with AppleWorks 3.0, the TimeOut-Central disks are really splendid value. I look forward impatiently to each issue, and the disks have been unfailingly interesting, useful, varied, and entertaining. If you use AppleWorks, but have not yet invested in TimeOut UltraMacros, I would urge you to think of buying it (and of trying TimeOut-Central). UltraMacros increases the power and usefulness of AppleWorks enormously, and TimeOut-Central provides plenty of relevant information and other help. Various of the articles on the TimeOut-Central disks will help you also to decide which of the other TimeOut applications and different enhancements could suit your own individual needs and interests.

Peter Stark

info

Product : TimeOut-Central  
 Publisher : Resource-Central  
 Available from :  
 Resource-Central  
 P.O. Box 112501  
 Overland Park  
 KS 66207  
 U.S.A.  
 Price : \$42 (inc free air mail)  
 for one years subscription

Value : 

## AppleLink Clippings

#### Apple IIGS: Characters Print Larger Than Specified Point Size

The Apple IIGS screen can display 320 by 200, or 640 by 200 pixels. The Apple IIGS print driver's default is to match the vertical resolution of the screen. This does not give you a true point size - a "point" being 1/72 inch - as the Macintosh does. The Apple IIGS print driver's default is to print in screen pixels, not in points. This causes the characters to print larger than the Macintosh characters of the same font and size. If You Choose 'Condensed' in the Page Setup dialog, the print driver will print in points instead of screen pixels. The printed characters will approximate the size of the equivalent Macintosh characters.

#### AppleCD SC: Using It With an Apple II

The AppleCD SC drive can be used with any Apple II that contains an Apple II SCSI Card with at least a revision C ROM. The recommended position is at the end of the SCSI chain. The drive must have a unique priority number on the SCSI bus. With the appropriate driver, you can access a compact disc that uses either audio, ProDOS, or High Sierra format. The AppleCD SC's accessory kit contains a version of CD Remote software for both the Apple IIe and Apple IIGS. - To play an audio CD from an Apple IIGS, copy the file CD.AUDIO from the Apple II disk (supplied with the AppleCD SC) to the DESK.ACCS folder on the Apple IIGS startup disk. - On the Apple IIe, run the Apple IIe CD Remote program (included with the AppleCD SC drive). A compact disc pressed in ProDOS format will be recognized by either ProDOS 8 or ProDOS 16, and used accordingly. ProDOS 8 retains its 32MB limitation, so compact discs are likely to be partitioned if they are intended to be used on an Apple IIe. ProDOS 16 is not limited to 32MB volume sizes. Once a High Sierra driver is placed within the System Folder under ProDOS 16, the Apple IIGS will recognize a High Sierra disc as a storage device. Because the Apple IIe doesn't support ProDOS 16, it can't take advantage of the Driver folder structure within the System Folder. Apple will supply interested developers with the High Sierra driver, which must then be incorporated into each application that supports High Sierra formatted discs on the Apple IIe. The eject button on the AppleCD SC operates on all types of compact discs used on an Apple II. As usual, if an application expects the volume to be on-line and the disc is ejected, ProDOS will ask the user to insert the disc.

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# Microdot 1.2

## Terry Morris reviews a slim line replacement for the Basic System

### What is Microdot?

MicroDot is a replacement for Basic.System published by the engagingly named Kitchen Sink Software of Ohio. Its claim to fame is that it is less than 4k in size (compared to the 10.6k of Basic.System), thus giving, according to the front cover of the instructions "7k+ of Extra Program space!". It also has numerous features not included in Basic.System. The program runs on the II+, IIe, IIc, IIc+, IIe and IIs, and comes as an unprotected 5 1/4" disk. I tested it on a IIs.

The arithmetic may be faulty (I got an extra 6.3k bytes, or 10% extra usable memory), but the program does have a number of interesting attributes.

### How Does it Work?

It is ampersand-driven, with 26 commands built in to the normal module. Additional commands are available by loading other modules, though some of the extra memory then disappears.

The 26 basic commands include equivalents to most of the Basic.System commands - append, load, save and so forth, but also include some new ones. Such as a command to overlay a Basic program on to the one running - thus subroutines can be kept on disk and loaded only as needed, another memory-expanding feature. This seemed to work very well - the end of program pointers are changed automatically by MicroDot when it loads the module, but you need to alter Lomem yourself to make sure that the variable storage space starts after the longest module you will load. If you don't, some strange new lines will be added to your programs.

Often the commands are shorter than their Basic.System equivalents, being only one or two letters, though not all commands are easily connected to their use (&E for catalog, for example).

Another extra command (&K for Kill) automatically reduces the file size when a file is saved over a previous larger version, which Basic.System does not do. There are also commands to get and change file attribute information, something difficult with Basic.System.

### Adding Modules

Additional modules - those which

can be added as and when needed - include a command to catalog the disk (surprisingly not included in the standard set of commands), and commands to allow random-access to files, to open as many as 8 files at once, and to format disks.

A further additional module is a hires picture packer and unpacker which will save disk space. Using this module means that loading pictures is slower, but I cannot imagine this would ever be a problem.



Yet another module allows direct access to the ProDOS MLI. The instructions say that this module is not for people who do not know what they are doing, so at this point I made my excuses and left to look at another aspect of the program.

### The Instruction Manual

The instructions are very thorough - there is a lot of information about the entry points of the various routines used by MicroDot that would be of use to the more experienced programmer.

### The Drawbacks

MicroDot does not work with most

program editors and therefore provides an edit module. It is not very sophisticated (though it is better than the Applesoft internal editor) and could be an inconvenience. On the other hand it includes a patch which enables you to use Program Writer and I used it successfully to modify some programs to work under MicroDot. This is mostly a very simple exercise since all the Applesoft commands remain the same. In general it is only the disk-access commands which have to change. No program gave any problem, including one with some machine code tucked away at the end of it. However, if an error does occur you are given only a code, so you need a good memory or the instructions to hand to know which error occurred when developing a program.

Although using ampersands itself the MicroDot permits their use in programs too. The instructions point out that any existing ampersand routines which call Basic.System will need to be extensively rewritten.

### Conclusion

In the end your view of this utility will depend on whether you have the problem it will solve. If you don't have a shortage of memory then you don't need basic overlays or a smaller operating system, and although this is not all the program offers it is its *raison d'être*. If you do have this problem then you will find it well thought through and worthy of your attention.

However, an alternative to consider is the Beagle compiler which gives you more memory on a 48k machine by reducing the size of your program - though this isn't going to help much with a small program and lots of data. On a computer bigger than 48k the problem is how to access it all under Basic.

Here, the Beagle Compiler comes into its own because it offers access to all the memory you have without any difficulty. It costs more but then nearly all programs run faster.

Terry Morris

info

Product : Microdot Basic

Publisher : Kitchen Sink

Available from :

MGA SoftCat

41 Cinque Port Street

Rye

East Sussex TN31 7AD

0797-226601

Price : £29.95 WYSIWYP

Value :

\*\*\*

Performance :

\*\*\*\*

Documentation :

\*\*\*\*

# TotalControl

## Peter Stark stays in control while he reviews this exciting new application

### Introduction

TotalControl is a recent program from JEM Software which modifies the AppleWorks 3.0 database, making it much more powerful and versatile. In this review, I shall summarise the extra capabilities which it provides. Rather than give a lot of individual examples of uses, however, I shall leave it to the imagination of the reader to think of possible new ways of using TotalControl-enhanced AppleWorks. This should not be too difficult, as TotalControl is a really significant step forward.

### What is supplied, and what you need

TotalControl is provided on an un-protected 5.25" disk, together with a well-produced 60-page manual. The disk also contains a 'Notes' file which gives supplementary information, and which is well worth studying as it includes some really significant material. Also on the TotalControl disk are several useful sample files and macros (including a helpful demo macro). It is well worthwhile to go through these files in detail, as they will help you to understand how to use TotalControl. I found it useful also to print out and study the 'rules' for each sample file. The manual is written in an enjoyably light but informative style, and it contains: (1) an introduction; (2) a tutorial which takes you through the major features of TotalControl; (3) a reference section which gives more detailed descriptions of each individual feature; (4) a section providing explanations of the various formulae that TotalControl provides; and (5) a final section about error messages etc.

To use TotalControl, you need to install it on AppleWorks 3.0, as a one-time patch. This is easy to do, and clear instructions are given in the manual. TotalControl is claimed to be compatible with almost all other AppleWorks enhancement programs, including those in the TimeOut series. The Notes file explains that there are some conflicts between TotalControl and the TimeOut UltraMacros <getstr> and <find> commands, but methods for avoiding difficulties are suggested in the 'Ultra Find' file on the same disk.

### What TotalControl enables you to do

The basic concept of TotalControl is that data rules can be added to AppleWorks 3.0 database categories so as to control what is entered into them. TotalControl rules can be set separately for each category that you choose, and they apply to every record of the database file. Thus, you can define up to 30 different rules for normal AppleWorks database files if you wish (or as many as 60 rules if your AppleWorks is enhanced with DoubleData 2.0). With TotalControl, two new general features (called 'masks' and 'imports') are added to the capabilities of the AppleWorks database. In addition, there are six new Open Apple commands that are available when using the TotalControl-modified AppleWorks database. These are: Open Apple-G ('Glossary'); Open Apple-K ('Recalculate'); Open Apple-O ('Options'); Open Apple-U ('Use calculator'); Open Apple-W ('Word processor window'); and Open Apple-/ (which is a new help command, described in the Notes file on the TotalControl disk).

'Masks' are a powerful feature which enables you to control what kind of text can go into any given category, and how it is formatted. With TotalControl, a mask is shown on screen as a series of normal text and Mousetext characters. The normal text characters indicate those areas which are skipped over by the cursor and cannot therefore be altered by typing. The Mousetext characters (ellipsis, diamond, and outlined plus sign) show whether the user is allowed to enter text only, numbers only, or anything at all. A simple example would be a mask for telephone numbers. You could design this to allow the entry of numbers only if you wished, while automatically providing the appropriate spacing (and parentheses if desired).

'Imports' are another extremely attractive and powerful function provided by TotalControl. Here, information can be imported into the chosen database category from other database or spreadsheet files (also on the desktop) by finding a matching export category. This is a very significant point, because it means that the AppleWorks

3.0 database can now be used in a relational way; that is, information can be exchanged between several files, working as a linked set. With TimeOut Triple Desktop, data can even be imported from one of the hidden desktops. (For this to work, the version of Triple Desktop must be dated later than August 28th, 1989).

Another splendid aspect of TotalControl is the Open Apple-W command. This allows you to display, in a window, all or part of a selected word processor file which has been linked to the current database category. To do this, the filename of the word processor file has to have been specified in a particular way. The word processor file must be on the desktop, and it must not be longer than 2000 lines. You can revert to the database very quickly. This facility to link database categories with word processor files is potentially of tremendous use, as it allows you to associate very large amounts of easily accessible additional information with your AppleWorks databases. You can choose to display and scroll either the whole word processor document or only a relevant portion of it. In the latter case, the section to be shown is sandwiched between two 'Set a Marker: 150" positions in the word processor file. An UltraMacros macro (OAW Maker) is provided on disk which makes it easy to create an 'Open Apple-W' word processor file from scratch for use with the current database category. Another useful macro (OAW Macro) enables you to use Option-J to jump successively: from a database category to a linked word processor window, then to the same spot in the actual word processor file (which you can now edit if you wish), and finally back to the database file. (An early version of this macro needed a couple of changes, by the way. If you have problems with OAW Macro, try changing 'X = peek \$3907' to 'X = peek \$390A', and 'Y = \$6abd' to 'Y = \$6abc'. [This information was kindly given to me by Randy Brandt]). Also, an early version of TotalControl had a minor limitation, in that word processor files whose filenames contained numbers could not be accessed via Open Apple-W. JEM Software plan to modify the program so that all AppleWorks word processor files will be accessible through this command.

### Increased Power

A further way in which the power of AppleWorks is greatly increased by TotalControl is that formulae of many different types can now be applied to specified categories of the database - rather as with spreadsheets. There are three kinds of variable (text, number, and Boolean). The text or number variables can, if you wish, be the contents of another category in the same record, or else they can be either 'literal' or the results of a specified formula. Various arithmetical operators (+, -, \*, /, and ())



and logical operators (x<y, etc.) are available. TotalControl also provides many date functions (e.g. @Today), text functions (e.g. @Concatenate), numeric functions (e.g. @Round), logic functions (@Choose, @Match, and @If), and others (e.g. @CurrentRow). The formulae must not be longer than 69 characters, however.

An additional feature which many people will find helpful is TotalControl's Open Apple-G 'Glossary' command. This makes it easy for you to fill in a database category by choosing entries from a pop-up list (which itself comes from a category in another database file on the desktop). The category which is to be filled in this way is called the 'glossary category', and the other database file which is the source of the pop-up list is called the 'glossary file'. The necessary rules are defined via the 'Open Apple-O' command. If you wish, you can use one category of the glossary file as the 'list', but designate another category in the same file as the 'result' which is to be entered into the glossary category. This means that you can choose items from an easily recognisable list, such as names, but automatically enter corresponding items which are harder to remember, such as telephone numbers. Moreover: the glossary capability also allows 'lookups'. By this, I mean that if you type something into a glossary category and then press Return, the entry is automatically checked against the list in the glossary file. If a match (or partial match) is found, the corresponding result from the glossary file is entered into the glossary category. This all sounds complicated, but is really quite easy in practice.

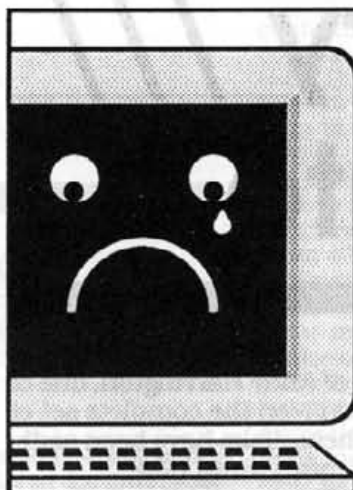
TotalControl's Open Apple-U command provides a pop-up calculator; its results can be entered in the current category if you wish. However, it does not store or remember the formula used in calculating the result. The results of the calculation can be displayed in several formats (via Open Apple-F), and with a chosen number of decimal places (via Open Apple-D). By using Open Apple-I, the contents of the current category (if a number) can be imported into the calculator. Before using Open Apple-U for the first time, it is advisable to read the relevant section of the Notes file on the TotalControl disk.

#### Open Apple-O

With TotalControl, rules for each database category are defined, changed, or cancelled by using the Open Apple-O Options Editor. When you press Open Apple-O, the rules (if any) for the current category are shown on the screen, and the main option menu is displayed. This offers the following options: 1. Modify rules; 2. Define new rules; 3. Cancel rules; 4. Change categories; 5. Change lock status (to lock or unlock the contents of a field); 6. Release TC memory (to release more desktop space); 7. Set (various) preferences; and 8. Print all rules. Most of these options, if selected, lead to new series of choices. For example, option 2 then prompts you to choose from seven major types of rule for the current category: Text only; Numbers only; Mask; Glossary; Import; Formula; or Miscellaneous. With text or numbers, you can define limits for the minimum and maximum lengths of the category. In the case of numbers, you can also stipulate the minimum and maximum allowed values. The database files can be loaded and used by AppleWorks in the normal ways, whether TotalControl is present or not. However, a special option is available which - if you really want to - lets you create a file which cannot be loaded unless TotalControl is present. As each of TotalControl's rules is described clearly in the manual, and the menu system is easy to follow, it is not really necessary to give further details here.

#### Overall comments

TotalControl is an exciting product. It provides the AppleWorks database with a new dimension, and greatly increases its power and value. If you read the manual carefully (and, I recommend, study the sample files that are provided on disk), you should find TotalControl easy to use. In this review, I have only mentioned some of the extra features which TotalControl makes possible; there are many others. I particularly like the ability to import infor-



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mation from other databases and spreadsheets, and also the possibility of accessing linked word processor files easily from the database. All the other TotalControl functions mentioned above are also useful, however. There is plenty of scope for using one's ingenuity to benefit from the range of powerful new features which TotalControl makes available.

Peter Stark

Available from: Various suppliers, including  
JEM Software (see main box) and  
Kingwood Micro Software  
2018 Oak Dew Drive,  
San Antonio, Texas 78232, USA)

info

Product : TotalControl  
Publisher : JEM Software  
Available from :  
JEM Software  
7578 Lamar Ct.  
Arvada  
CO 80003  
U.S.A.  
Price : \$60 plus shipping

Value : ★★★★★  
Performance : ★★★★★  
Documentation : ★★★★★

# Library /// Update

□ Thanks to the generosity of Andy Harrington, one of our members, we have been given the complete set of Apple /// System Disks. These disks have been sadly missing from our System Library until now.

The disks are priced at the standard 5.25 inch library price of £3.40 which includes VAT and P&P.

We also have some of the System Manuals and so will now be able to answer some of the commonly posed questions.

## Disk S007 /UTILITIES/

### System Utilities

*SOS.KERNEL	\$0C	44	1-FEB-82
*SOS.DRIVER	\$0C	28	11-SEP-81
*SOS.INTERP	\$0C	28	11-SEP-81
*SYSTEM.PASCAL	\$02	46	11-SEP-81
=SYSTEM.MISCINFO	\$05	1	11-SEP-81
*SYSTEM.STARTUP	\$02	124	11-SEP-81

## Disk S008 /UTILITIES.DATA/

### System Utilities Data

=CONSOLE.DRIVER	\$02	13	11-SEP-81
=RS232.DRIVER	\$02	8	11-SEP-81
=QUME.DRIVER	\$02	5	11-SEP-81
=AUDIO.DRIVER	\$02	5	20-NOV-80
=GRAFIX.DRIVER	\$02	14	11-SEP-81
=SILENTYP.DRIVER	\$02	13	11-SEP-81
=FMTDX.DRIVER	\$02	6	11-SEP-81
=KEYBOARD.LAYOUT	DIR	1	11-SEP-81
=SHOLES	\$02	4	11-SEP-81
=DVORAK	\$02	4	11-SEP-81
=FONTS	DIR	1	11-SEP-81
=STANDARD	\$07	3	11-SEP-81
=APPLE	\$07	3	11-SEP-81
=ROMAN	\$07	3	11-SEP-81
=BYTE	\$07	3	11-SEP-81

## Disk S009

Apple II EMULATION Disk  
Integer and Applesoft™ Basic

## Disk S010 /BACKUP3/

### Backup ///

=SOS.KERNEL	\$0C	44	1-FEB-83
=SOS.DRIVER	\$0C	22	1-FEB-83
=SOS.INTERP	\$0C	28	1-FEB-83
=SYSTEM.PASCAL	\$05	51	30-SEP-82
=SYSTEM.MISCINFO	\$05	1	11-SEP-81
=SYSTEM.STARTUP	\$02	86	20-JAN-82

## Disk S011 /SYSTEM.DEMO/

### System Demonstration

*SOS.KERNEL	\$0C	44	1-FEB-82
*SOS.DRIVER	\$0C	42	11-SEP-81
*SOS.INTERP	\$0C	51	11-SEP-81
*BGRF.INV	\$02	21	11-SEP-81
*PIE.PIC	\$08	33	11-SEP-81
*HELLO	\$09	5	11-SEP-81
*MENU	\$09	7	11-SEP-81
*CONSOLE	\$09	14	11-SEP-81
*READCRT.INV	\$02	4	11-SEP-81
*TYPEAHEAD	\$09	12	11-SEP-81
*ADJUST	\$09	6	11-SEP-81
*SHOW	\$09	13	11-SEP-81
*HORSES.INV	\$02	13	20-NOV-80

## Disk S012 /PRO.UTIL/

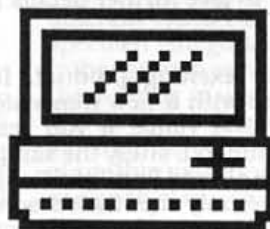
### proFile™ Driver & System Utilities Software

=SOS.DRIVER	\$0C	33	2-FEB-82
*SOS.KERNEL	\$0C	44	1-FEB-82
*SOS.INTERP	\$0C	28	11-SEP-81
=SYSTEM.MISCINFO	\$05	1	4-SEP-81
*SYSTEM.PASCAL	\$02	65	4-SEP-81
*SYSTEM.STARTUP	\$02	3	26-JAN-82
*SYSTEM.STAR.LIB	\$02	4	25-JAN-82
*PROFILE.DRIVER	\$0C	9	11-SEP-81

## Disk S013 /BASIC/

### Apple Business Basic

*SOS.KERNEL	\$0C	44	4-SEP-81
*SOS.DRIVER	\$0C	42	11-SEP-81
*SOS.INTERP	\$0C	51	11-SEP-81
*HELLO	\$09	5	20-NOV-80
*BGRF.INV	\$02	21	11-SEP-81
*VOLUMES.DOC	\$09	5	11-SEP-81
*VOLUMES	\$09	1	11-SEP-81
*VOLUMES.INV	\$02	5	11-SEP-81
*TIMESSET	\$09	7	11-SEP-81
*TIMESSET.INV	\$02	4	11-SEP-81
*RENUMBER.INV	\$02	15	11-SEP-81
*RENUMBER.DOC	\$09	11	11-SEP-81
*RENUMBER	\$09	6	11-SEP-81
*READCRT	\$09	4	20-NOV-80
*READCRT.INV	\$02	4	20-NOV-80
*DOWNLOAD.INV	\$02	5	11-SEP-81
*DOWNLOAD	\$09	1	11-SEP-81
*DOWNLOAD.DOC	\$09	5	11-SEP-81
*FONTEMO	\$09	3	11-SEP-81
*STANDARD	\$07	3	20-NOV-80
*APPLE	\$07	3	11-SEP-81
*BYTE	\$07	3	11-SEP-81
*ROMAN	\$07	3	20-NOV-80
*REQUEST.INV	\$02	7	11-SEP-81
*REQUEST.DOC	\$09	13	11-SEP-81





# The Graphics Department

## Victor R. Wilson-MacCormack reviews a comprehensive graphic construction kit

First impressions of this software are good. The package is well presented in a foam padded A5 size, PVC ringbinder. With professionally designed graphics printed on the front and spine, it looks the business; the disks are enclosed inside the binder in integral pockets on the inside front and inside back covers. The registration and guarantee cards are likewise enclosed, along with a few flyers advertising some of Sensible Software's other Apple II software; but unfortunately the contents and layout of the manual do not continue the high standard of presentation set by the designer of the PVC binder.

### Gripes

The first gripe - and I am biased, since part of my job is writing manuals, and my employer is a manufacturer of (you've guessed!) PVC ringbinders! - is that there are no indexes (dividers) which I feel are essential in a manual of this size and complexity. The layout of the pages leaves a lot to be desired; the use of paragraphs, and bold headings, is not consistent when they are used. Another very irritating fault is the mistake of having the page number printed on the bottom left hand corner of the page, whether the page is odd or even numbered - think about it! Although these points may seem trivial, if you think of the excellent layout of the AppleWorks manual, and the Beagle Brothers TimeOut manuals, you will appreciate that a good layout can actually assist the reader to understand the contents, and find his way around the document.

There are some minor inaccuracies in the manual, which may be a hang-over in upgrading from an Apple II package to an Apple IIe version (I'm guessing) since they were usually of the kind that got me pressing the wrong (right) keys to get the required response!

### The Program

Now to the program itself. I was testing this program on an Apple IIe with an AE expanded clipboard with 256K of memory installed, twin disk drives, and an Apple DMP printer for

hard copy. Unfortunately, I only had a monochrome monitor at the time I was assessing the package so could not get the benefit of the apparently excellent colour capabilities. Incidentally, there is a very good explanation of hi-res graphics, including both the capabilities and the limitations applicable to the Apple, in the Introduction pages. The version I had was presented on six sides of unprotected 5.25" floppy disks, the first disk being Charting Kit and Printer Interface on side 1, Large Fonts on side 2; the second disk being Graphics Tools on side 1, Lettering Kit with Mono Fonts and Proportional Fonts on side 2; the third disk being Slide Projector, File Utilities, and Small Fonts on side 1, and a sample slide show on side 2. On booting up the first disk, I was a little disappointed to see the amateurish screen layout so reminiscent of the early DOS programs in 40 column layout. How we have been spoiled by ProDOS and 80 columns in recent times!

### The Package

The Graphics Department is a highly creative kit, and is several compatible, integrated programs spread across the three disks. Each application has a reference section, but the Charting Kit has both Tutorial and Reference, and although the reference sections for the other applications are quite good, tutorials for them would have accelerated the learning curve. The Tutorial for the Charting Kit takes up 25 pages of the manual, and the Reference Section 33 pages; the Reference Sections for the Lettering Kit takes up 15 pages, the Graphics Tools 24 and the Slide Projector 20, which shows the relative importance placed on the Charting Kit. There are a further 40 pages of information on the Printer Interface, File Utilities, Advanced Techniques, Appendices, and Index! Not to mention 23 pages at the beginning for Introduction, Getting Started, and Common Functions!

### Charting Module

The major module (in the eyes of Sensible Software?) therefore seems to be the Charting Kit. By working through the Charting Kit Tutorial very

conscientiously, at the end of it I was confidently creating graphs in most popular layouts (bar, stacked bar, pie chart, line graph, scatter charts, and XY charts) and adding titles and labels from the built-in text fonts. It is very easy to try out different graph types for the same data ranges, to see which style is better suited to the presentation. As one would expect, the program allows the user to change the scaling of each axis from the default values entered automatically from the data, and add grid patterns from a choice of four. There is also the capability (for the mathematicians and statisticians who may still be using an Apple IIe!) for showing standard deviations, mean values, and best fit trend line. Would you believe me if I told you that the best fit trend line is computed using a least-square linear regression? I knew you would! Data is easily entered from the keyboard, and the program will accept imported data from VisiCalc and AppleWorks spreadsheets, which I must confess I did not try out. I have only recently started to use spreadsheets, but I have been creating graphs and charts for training purposes using independently entered data, so was eager to see this particular application at work. It did not let me down, both the on-screen and printed results were professional in their appearance. I missed out on the colour performance for area charts but it looked impressive even in monochrome. The program also allows a preview of the graph being plotted which is handy - although we have probably come to expect this with programs such as Beagle Bros TimeOut Graph. Remember, though, that this software originated in around 1985.

### Lettering Module

The second part of the package (The Lettering Kit) is a text creative package which can be used on its own or in conjunction with the charting kit. In all there are 43 fonts available, some of them being mono spaced, and some of them proportionally spaced. This does not mean that there are 43 different type styles available, though, as some of the styles are duplicated by the provision of a double-sized font on the large fonts disk. The size of each font can be increased or decreased when placing the text on screen, but one of the most creative features is the ability to place the text at any angle throughout 360 degrees; the size adjustment can also be made for its height, its width, or both, and the adjustment can be different for the height from that for the width! This gives a tremendous potential for getting the image to look exactly right; some of the fonts are provided in both large and small size, which increases the flexibility for the user. Again, if I had used a colour monitor, the on-screen results may have been even more impressive than they were on the mono monitor, but

this is a treat I will have to look forward to. The method of moving the text around the screen using the I-K-L-M-J-H keys was especially tedious at this point, and I found myself wishing I knew enough to get inside the program and change it so that I could use the arrows!

Since the various fonts are spread around the three disks, there can be a fair amount of disk-swapping. Although one of the appendices to the manual gives a graphic representation of the fonts, they are grouped under their classification as mono-spaced, proportionally spaced, and large fonts - no indication as to which disk they are on until you play around with the disks and learn it for yourself! Then you notice that the disks are labelled with which size of font they contain, but when the disk is in the disk drive you can't see the label! And who labels their back-up disks exactly as the original anyway? Well, there had to be one, didn't there!

### Positioning Text

Creating and positioning text is rather long-winded, but extremely accurate, since the program uses co-ordinates to position the print on the screen. People like me, who have grown up with a life running pure business software (AppleWriter, AppleWorks, Omnibus database, and Systematics Accounting packages) and who are not used to "programmer's type programs" which need a bit more understanding, will struggle for a while. The biggest single item to overcome is having to use the I-K-L-M-J-H keys to move elements around the screen rather than the four arrow keys; as I say, it's what I call a programmer's program - maybe that hang-over from the old Apple II+ days? Once the battle is won, the results are worth it; although it is not possible to centre or justify text with a single keystroke, the flexibility of this method of text positioning means that creative thought can result in pleasing text screens with a professional looking layout. One other drawback is that mono fonts are positioned with a totally different set of menus and commands from proportional fonts, and this can be confusing.

### Graphics Module

The third part of the package (The Graphics Tools) is a powerful drawing program, again fully compatible with the other modules. It includes a paint program, with facility for using 100 colours, a pixel editor, utilities to combine, save, and recall pictures, filter colours, and much more. Standard shapes - circles, ovals, rectangles, and lines are entered by just a few keystrokes, but here again, the user has to get into the use of screen co-ordinates to position these elements. Not too bad once you get used to it, but I found that I had to refer to the manual the next time I used the routines. One of the

key techniques to learn is the user-definable window, which becomes the working area. There are some quick-cuts to drawing shapes using the window, such as pressing 'R' for a rectangle, or 'E' for an ellipse, bounded exactly by the rectangle. One of the uses to which this module can be put is the drawing of Organisation Charts (you know, Company family trees) to create the boxes, and connect them with lines. It is then possible to use the Lettering Kit to put the names inside the boxes. Whatever you draw with the Graphics Tools, you end up with a picture which can be merged, overlaid, reduced in size, and twinned in all sorts of ways. The picture can then be saved (as a hi-res picture) for use with the Slide Projector. I have also exported these pictures, saving them as Apple Pictures for use with Showcase, sadly no longer available (but my thanks to Jon Gurr of MGA SoftCat for selling me this remarkable piece of software!) and Polaroid Palette.

### Presentation Module

The final part of the package is The Slide Presentation Kit which enables a basic slide presentation to be put together. The results on my mono monitor were not too impressive, since the finish looks amateurish compared with some of the graphics, text-screens, and pictures that can be created these days with Publish-It or Print Magic, but it is still very effective for getting the message across with a difference. Incidentally, the slide presentations cannot be saved on an normally initialised DOS data disk, there is a special routine in the program for initialising a slide disk, and pictures then have to be saved to this as slides, with or without a name change as required. This can be confusing when reading the manual, but I got used to it eventually by hands-on application. The order in which slides are shown in the presentation can be structured by the compiler (person, not program) and can be manually controlled or timed. Since the screens change at about one and a half seconds, the slide presentation can be animated - well, sort of! During the edit sequence, the user can select slides from disk, decide which order they will be shown in, and set the length of time that each slide will remain on screen. Sub-titles can also be added to the slide. But! - the presentation outline has to be saved on a DOS 3.3 disk, not on the slide disk - wow! The presentation outline can be printed out via the hard-copy printer, and this is a useful capability, especially for someone who will have a large number of structured, or varied presentations on file. An existing presentation can be edited as well, taking out, or adding slides, and changing the order of view.

### The Complete Kit

The Graphics Department is really four programs in one, and I suppose

this is why the manual is lacking in some ways - to document each application as a separate program would have meant a manual twice or thrice as bulky, and I guess that someone was thinking of the user's convenience! This also accounts for some of the steep learning curves due to the sketchy treatment of the topic in the relevant section. Each of the programs (modules, applications, call them what you wish) is worth the sort of money that you would pay for the whole lot.

The program is well supported with utilities, including a full range of file utilities, enabling you to format, catalog, lock, unlock, delete, rename, and review files from within the program. A printer interface (configuration) and print selection routine provide full control of print-out, and flexibility such as image size, position on the paper, rotation, and inversion of the copy. And to think that many of us having bought Triple-Dump or similar print utility programs thought they were marvellous, here is something equally as good all wrapped up in something else. Configuration is easy, each menu selection offers a list of the usual (and not so usual) printers and interface cards, chosen by selecting the letter applicable.

I haven't tried importing pictures or other files such as Print Magic screens into the Graphics Department yet, but if it works then it will open up a whole new area of hard-copy activity using these excellent routines. (The manual doesn't state that this is a possibility, by the way, but since the Slide Projector uses hi-res pictures created by the Charting Kit, Lettering Kit and Graphics Tools, it would seem to be logical that hi-res pictures created by other programs will also work!).

### Finally

In all, I feel that the Graphics Department is a fun program and despite its limitations it offers a good value for users at the semi-pro end of the market. If you are looking for a presentation to rival Saatchi and Saatchi, forget it; but if your interest is in low budget presentations where none exist already, such as clubs, schools, voluntary organisations or even small businesses, then I think you will enjoy using the Graphics Department and will impress your audiences. The program, once mastered, is easy to use, flexible and versatile; and although it takes time to get to grips with some of it, the manual is reasonably comprehensive, bearing in mind that it tries to get a quart into a pint pot! To give credit where it is due, I didn't find any queries that I couldn't resolve by reference to the manual, even though the answer sometimes took some finding.

The Graphics Department is available from MGA, 41 Cinque Ports Street, Rye, East Sussex, TN31 7AD priced at £89.99 WYSIWYP.

Victor R. Wilson-MacCormack



# Swift Spreadsheet

## Peter Davis looks at the best part of the Swift Home Office package

I was recently given the opportunity to look at a group of software called Swift Home Office. (Word Processing, Data Base and Spread Sheet.) In the main, I saw nothing on which I would like spend time making recommendations, with the exception of one package, which stood out from the rest.

### Spreadsheet

The Spreadsheet (DOS 3.3) has minimal instructions (one side of a 1/4 \* A4 piece of paper), which are just sufficient to enable you to print a comprehensive manual which is on disk, providing you have the right printer on line. The program itself has an excellent set of pull down Menu/Help screens invoked by <RETURN> on a blank cell. When you select to load a file you highlight it and press <RETURN>.

Not all the common mathematical functions are included; for example SIN, LN, ACOS. On the other hand there are plenty of normal and logical spreadsheet functions:-

+\*, @AND, @ASSIGN, @COUNT, @IF, @IFGOTO, @LOAD, @LOOKUP, @MAX, @SAVE, @MEAN, @MIN, @NUMBER, @OR, @PV, @QUIT, @SORT, @SAVE, @STD, @TEXT, @VAR.

There are also all the usual commands; Clear Worksheet, %, \$, Zero-suppression, Copy cell, Range, Format a cell, Column width, Split screen, and Recalculate.

There appears to be no copy protection. Disk Formatting is not supported. Special printer codes can be entered, but require some research in your printer manual. The program worked quite happily on II c or II GS.

### To Sum Up

This is an easily intelligible spreadsheet, quite unadorned by trivia, yet easy to use.

### Conclusions

This is very uncomplicated stuff designed for single drive operation. The program requires no disk access once the program is loaded. Very simple to use, with an attractive user interface, which I found to be intuitive to deal with. I would recommend it for someone who wants to learn about spreadsheets for the first time, and equally for someone who just wants a program requiring the shortest possible learning curve.

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### NEW! APPLE REPAIR SERVICE - CALL

# Pyware Instrument Designer

Stuart Anderson our resident musicologist puts down his bagpipes to review an accessory to Music Writer

This package is part of a product range which includes the previously reviewed 'Music Writer' for which this program can generate instruments, a marching band 'Charting Aid' which generates animated drills and 'Music Administrator' which is a complete student admin. package to track grades, loaned instruments, inventory, budgeting and more.

## 'Pyware Instrument Designer'

When the IIGS came along in 1989 one of the major talking points was the inclusion of the 5503 DOC (Digital Oscillator Chip) created by Ensoniq for the big selling Mirage sampling keyboard. Combined with the promise of a Mac type desktop this made the GS seem like the ideal machine for budding samplers everywhere - the power of a (then) state of the art sound chip along with a superb user interface. Why then has it taken so long before anyone has come out with a sample/synth editor capable of making the use of the DOC painless and easy?

The answer lies in the inherent difficulty of programming the DOC, which is after all a processor in its own right. Anyone who sat down with Apple's original programming documents for the GS would look at the DOC programming notes and rapidly begin to look a bit perplexed. Indeed it has taken Apple up until this year to come out with a more user friendly approach to Midi/DOC usage themselves in the shape of the MidiSynth Toolset and SynthLab. What then is a package claiming to be 'A perfect program to make optimum use of the Apple IIGS and its built in Ensoniq chip' required to do? A look at how one uses the DOC will soon reveal how this program shapes up.

The DOC consists of the chip itself, some output circuitry, some RAM and the so-called GLU which it uses to communicate with the IIGS. The chip itself is an 8 bit device, which in sampling terms these days means its not very good, which has 32 Oscillators which are paired to create Generators. Two Oscillators are required by the GS which leaves 30 Oscillators or 15 Generators. This gives the DOC the ability to generate 15 voices of simultaneous

sound. Each Oscillator has a specific mode which means that you can have various setups to play back the 2 waves associated with 1 Generator (remember they don't have to be the same wave!).

These modes are-

**Free Run:** Continuous play of wave until halted.

**One Shot:** Play wave once then stop.

**Sync/FM:** One wave can modulate the other.

**Swap:** Play one wave then the other.

What this means in practice for example is that, if Oscillator 1 had the attack sound of a Violin and Oscillator 2 had the main body of the 'held' portion of the sample, holding down a key on a Midi keyboard will play Oscillator 1 once (One Shot Mode) then play Oscillator 2 until told to stop (Free Run Mode). Of course there are many variations on this, SynthLab for example lets you do some very strange things. In addition each voice has an associated 'Envelope', which controls the characteristic shape of the voice. In this case it is an 8 stage envelope offering very precise control. The DOC itself has 64K of RAM to play with but through clever programming samples or waves can be played back that take up more than this limit. All in all then a very good looking system if a bit hard to program. How then does 'Pyware Instrument Designer' shape up?

A quick run through of the menus gives an idea of what they attempted to achieve here (note hint of disappointment!).

## File

All the usual stuff plus 'Get Wave', which loads saved waveforms into the Wave window, and 'Librarian' which allows you to set up banks of instruments for use in the 'Pyware Music Writer' system. The system comes with a folder of ready made instruments and a folder of waveforms.

## Edit

The usual stuff, but with a very odd implementation of 'Cut'. For implementation read bug.

## Window

This opens or brings to the front the appropriate window. These are Sound Sample, Keyboard, Envelope, Vibrato and DeTune. They are all fairly obvious and intuitive with the sample and envelope windows being the ones you'll use most. The Sample window lets you view and edit Wave A, B or Both with Cut/Paste etc. working pretty much as expected most of the time although a strange bug seemed to only allow a Cut at the second attempt. This window has 2 modes, *select* with an I-beam cursor and *draw* with a pencil. The Envelope window displays your envelope shape with handles on the control points. This makes it easy to drag these points around to change the shape, at least it would if the cursor didn't change to a very badly drawn hand that totally obscures the thing you're trying to grab. If my hand was shaped like that I wouldn't be able to type this review!

## Envelope

This menu lets you use Cut/Copy/Paste of the envelope between different instruments.

## Options

Here we have a host of goodies, such as the size of the view of the wave in the edit window, Relative Pitch, Wave Size, Play Mode and Midi Interface. Wave size lets you define how much DOC ram you want to use for each wave of this sample up to 32K per wave (oscillator). Play Mode allows you to select those tricky DOC modes, in this case Looped A&B, Single Shot A&B and Single Shot A/Looped B. Note here the avoidance of any tricky DOC mode combinations a la SynthLab. Midi Interface determines the location and type of your Midi interface.

## Sampler

Brings up dialog box to allow sampling from a sampling card in a slot.

Right, that's the good points over with! Yes, that's it. The description makes it sound like this is a well cool program but the trouble is it doesn't just take a user interface that looks like it'll do all you want, you also need some solid programming effort behind it. I was so frustrated I initially thought I must have had a flaky DA in my system so I removed all non Apple stuff and rebooted my machine. This time round I just got different bugs showing up so I actually booted into P16 from the distribution disk. This was of course a waste of time. Many of the problems may be down to my preference for programs that actually do what you expect them to do, but I don't, for example, want my desktop to be replaced by the contents of the 'Envelope' window when all I did was move it across the screen! Many of the problems are obviously serious bugs, such as the inconsistent 'Cut' mentioned earlier, whereas others are just down



to a badly implemented interface. Why should I have to click on the keyboard window to activate it before I can then click on a key to play a note? The program has to make the window the active one before it can detect the mouse click to play a note! This is a simple programming flaw anyone who has actually read the Toolbox References could find a way around. This applies to all the windows on the screen. Can you imagine clicking on a drawing in Freehand only to see your Toolbox window disappear behind the drawing? Mac users wouldn't tolerate that so why should we put up with it?

The problems are not just in the buggy code but the whole construction of the program seems odd. Why not allow users to save in Apple's standard sound formats and not just in a format usable by Music Writer? This makes the program of little use to anyone who wants to use it outside of these packages and is another major reason for giving it the thumbs down. It must be galling for the good folks at Apple to put so much effort into giving us good system software every year when people like Pyware seem to take great delight in ignoring it. We have here a program that would have looked out of place on the original demo disks that came with the machine. If I sound harsh it is because it is clear that Pyware are really trying to put out products for which there is a market and they deserve credit for attempting to stick with the GS through thin and even thinner. It is just an extreme disappointment that both this package and the previously reviewed 'Music Writer' fall short on more counts than Rod Stewart has leggy blondes. (Ed: What have you got against Rod Stewart may I ask?)

Stuart Anderson



#### info

**Product:** Instrument Designer

**Publisher:** Pyware

**Available from:**

MGA SoftCat

41 Cinque Port Street


Rye


East Sussex TN31 7AD

0797-226601

**Price:** £129.00

**Value:** 

**Performance:** 

**Documentation:** 

# Salvation Exorciser

## Dave Ward reviews the last program in the Salvation package

MGA SoftCat kindly loaned this package to review. Fortunately, for me, I find myself unable to do this as I have never encountered a virus, since I first used an Apple IIgs in late 1986, and hope I never will!

So we appear to have three options here:

1) Return the package to MGA SoftCat as not reviewable.

2) Members could send to us disks with suspected virus infection to enable us to review this package.

3) Alternatively a member who has virus infected disks might like to take on the review!

I suspect that the incidence of virus infection on Apple IIgs computers in this country is very small - some thanks here might go to Apple Computer (UK) and their policy in marketing the machine! Perhaps Apple2000 members might like to tell us if they have ever experienced problems with a virus. I doubt that there will be many since those Apple // computer users I know of whom I would expect to be vulnerable to such things have not reported problems to me.

If we don't hear anything from members in the next few months we will have to return the package to MGA SoftCat without a review so do tell us of your problems.

As I say I haven't tested Exorciser but here is a description of it with my comments:

#### Exorciser:

This product is a companion to the other four Salvation products two of which we have reviewed elsewhere in this magazine.

Exorciser is packaged like the other programs in the Salvation suite and consists of a single 3.5" 800K diskette, a 30 page manual and advertising literature.

After copying and booting the diskette you find yourself looking at the standard desktop window with the menu bar. The interesting parts of the menu bar, for us, are:

#### Monitor Eradicate Analyse

##### Monitor:

This allows one to create a checkfile for a particular file on a disk that might

be vulnerable to virus infection. These are usually ProDOS 8 and GS/OS system files but any filetype can be checked. From time to time this checkfile could be used to compare the current state of the file. Certain changes to system files would indicate problems. System files should never change only when you update, for instance. Only one file can be checked or monitored at a time which makes the job just a bit boring for a whole hard disk. Better would be a check on all files of the vulnerable types!

##### Eradicate:

If you have a suspected file this routine will make the file clean!

##### Analyse:

This routine analyses files on your disk for possible infection. This is a bit of a joke or a naive attempt to check for virus infection of files. I say this because although it is well known that virus programmers have an infinitely lower quality of the important grey matter than the rest of humanity they are really very clever programmers who would have little difficulty in producing good quality real-world programs. Surely such programmers would make their code look quite friendly until it was required to be used? So what is the use of checking for destructive calls which these programs use? That is all Analyse does.

#### Conclusion:

Monitor is the best part of this package since any changes to the code or size of a system file would be sinister and warrant a careful check. To work well it would need to check for many files automatically.

Virus infection can also affect parts of disks that are not files. The most popular place is the boot block, block 0. Exorciser doesn't appear to make this type of check.

□ Exorciser is available from MGA SoftCat for £39.95. Their neat one-line:

What you see is what you pay!

Dave Ward

# Members Corner



Sometimes we have material which is not quite a letter or not quite an article, here is the place you will find it

© Patricia Chase  
Windsaver  
Marina  
HPSA 8818

Dear Elizabeth,

DOS 3.3 users may be familiar with DOS Toolkit APA - Applesoft Programmer's Assistant - and its useful editing commands (particularly Renummer, Merge and Xref - cross-reference variables) but may be put off from using it very often by its long-winded, relocating, loading procedure, merely to wind the program up to the top of memory. A relic, no doubt, of the time when not all Apples were populated to the then full 48K. (By the way, do current versions still do that?) Yet after relocation, APA is a normal binary program with not a single DOS operation in its repertoire. It merely needs a "set & hook and HIMEM" routine on the front to turn it into a program capable of being simply BRUN-ed.

But before doing that do make sure that the original LOADAPA program is amended to cure the bug in APA which caused the Xref command to hang sometimes when DATA statements were present in the program being processed. The relevant amendments to do this are shown in the listing. The original solution (Neil Lomas, Windfall, December 1982) put a patch in six spare locations in DOS 3.3 itself and referred APA to that fixed position, but since that suits only DOS 3.3 (and not, for example, FastDOS or some other variant) it is better to put the equivalent patch on the front of APA wherever that is and adjust HIMEM to protect it. APA is used via the '&' command so it won't cause interference there. This alternative to the Lomas formula is effected in the GOSUB 60000 routine in the listing and is self-adjusting no matter where APA loads (of which more later).

The program in the second listing needs to be RUN immediately after LOADAPA to add the setup routine and BSAVE the whole as program APABIN. The added routine duplicates in part the APA setup code but it is simpler to start afresh than to address the original. APABIN is now the BRUN-able version of APA, occupying 16 disk

sectors compared with the total of 32 for the relocatory group of files. Load/setup time under FastDOS is around one second and only several seconds under DOS 3.3 itself. '&' commands for APABIN are exactly as for APA.

Since this binary file form of APA now addresses only Applesoft programs and not the operating system, there seems no reason why it should not also run under ProDOS but from what little I know of that unfriendly system you would probably have to reserve 15 (sic)

pages of buffer, pull down HIMEM (see 'Beneath ProDOS', Worth & Lechner), devise a loading program to do this and possibly even 'compile' APABIN in a different location. There is no problem on the latter point since both the patch in LOADAPA and the program to create APABIN are self-adjusting, directly or indirectly, according to the original HIMEM declaration in LOADAPA, lines 80/90, and a different HIMEM value will still give a viable APABIN (subject to the G.I.G.O. rule). If a specific positioning is required for ProDOS use or any other purpose, the map to remember is that APABIN occupies 3646 bytes down from the HIMEM specified in LOADAPA but that when it is BRUN, the setup routine, its job done, points HIMEM to the start of the patch 24 bytes above and so leaves itself, but not APA or the patch code, open to overwrite if an Applesoft program is run.

Out of sheer curiosity, I should be glad to hear if any interested member does get APABIN to run under ProDOS (and, indeed, whether such a transfer is considered to be worthwhile).

R.P. Brown

## Amendment to LOADAPA program

```
80 H = 38400: REM $9600
90 HIMEM: H
***
185 GOSUB 60000
***
6000 REM APA patch to correct &XREF error where data statements
are present
60010 S = H - 3621: FOR I = S TO S + 5: READ Q: POKE I, Q: NEXT
60020 Q = H - 1156: HI = INT (Q / 256): LO = Q - HI * 256: POKE S +
2, HI: POKE S + 1, LO
60030 HI = INT (S / 256): LO = S - HI * 256: POKE 115, LO: POKE
116, HI: REM Adjust Himem
60040 POKE H - 1171, LO: POKE H - 1170, HI: REM Amend JSR operand in
APA
60050 RETURN
60060 DATA 32, 99, 99, 201, 0, 96
60070 REM 2nd two are LO/HI of call to APA in the patch (adjusted
at 60020)
```

## Listing 2

```
100 TEXT: HOME
110 H = PEEK (115) + PEEK (116) * 256: REM HIMEM: after running
LOADAPA
120 REM Make some effort to check APA (patch) is there
130 IF PEEK (H) < > 32 OR PEEK (H + 3) < > 201 OR PEEK (H + 4) <
> 0 OR PEEK (H + 5) < > 96 THEN PRINT CHR$ (7) "APA'
not in position.": END
140 A = H - 24: REM Start loc. to place set-up code
150 FOR I = A TO A + 23: READ Q: POKE I, Q: NEXT
160 Q = H: GOSUB 240: POKE H - 6, HI: POKE H - 8, LO: REM Adjust
HIMEM: set-up
170 Q = H + 309: GOSUB 240: POKE A + 8, HI: POKE A + 6, LO: REM
Adjust pointer back to APA
180 HIMEM: A: REM Protect all the code
190 FILES = "APABIN": REM (or what you will)
200 PRINT "Creating file "FI$"": PRINT CHR$
($4) "BSAVE"FI$, A, A, L3646"
210 END
220 DATA
169, 76, 141, 245, 3, 169, 99, 160, 99, 141, 246, 3, 140, 247, 3, 169, 99, 160,
99, 133, 115, 132, 116, 96
230 REM '99' values are replaced at 160 and 170 above
240 HI = INT (Q / 256): LO = Q - HI * 256: RETURN
```



Dear Editor,

□ The reprinting of the article "The Begets of the Apple IIe Motherboard" in the August issue would surely only be of use to those who had bought their computers from a man with a suitcase at Heathrow airport.

All the numbers in figure one, the video chip and the locations are different in the UK. At the back left of the motherboard the words "APPLE IIe" are followed by "P.A.L." which presumably indicates Phase Alternating Lines, the TV colour system used in the UK (and not Programmable Array Logic).

At the back centre, between slots 3 and 5, on the machine for which I paid a lot of money early in 1983, the solder lettering is 820-0073-A (c)1982 and the white letters are (B) 607-0664. Whether this can be enhanced I don't know as I have never tried, but I ignored the warnings about the "-A" suffix, put the jumper on the extended 80-column card and had double resolution graphics.

My guess is that while the board was being modified for UK TV colour, pin 55 of the Auxilliary slot was re-routed to gate the HAL timing generator for double resolution and the necessary changes made in the HAL and MMU. The technical details are in Jim Sather's book "Understanding the Apple IIe" it could be that the original "Rev A" never appeared with UK colour. The colour killer switch is in the middle of the board, location B10.

I have used two enhanced machines, both (c)1984, on one the solder letters have been covered with a sticky label reading "820-0073" (not -A) and the white letters are (B) 607-0264-F, and on the other the soldering is "820-0188-A" and the white is "607-0288-A". On both the colour killer switch is

on the extreme right hand edge. The UK chip numbers were listed in Apple 2000, April 1990, page 13.

Although my enhanced video ROM is 342-0273-A, my unenhanced EF-ROM is 342-0134 and the CD-ROM is 342-0135-B. How old was that article? I cannot imagine a "friendly Apple dealer" changing a IIe motherboard at no charge, even in the USA they have probably forgotten what a IIe was.

□ Why didn't our beloved APPLE ever produce a real portable which you could take to lectures or libraries? This year I have bought a TANDY 102 portable which is no longer in their UK catalogue, and so can found at special offer prices less than £180. I do not know how this works out, as it is still \$599 in the USA. For this you get a full size "proper" keyboard, which is better than the Z88 reviewed in Apple 2000 last Summer. It is only A4 size, weighs less than 4 pounds, and includes a (slow) modem, cassette, parallel and serial outputs. Basic is included, and a simple word processor. While not up to AppleWriter standards, it has Cut and Paste, and Search facilities.

An internal battery preserves your text in RAM for weeks after you have taken out the running batteries, so there is no hurry to download. When I get home I can either connect it directly to my parallel daisywheel printer, or tip the contents into my Apple IIe.

ProDOS AppleWriter already has a modem facility for two way transferring text files and the only extra I had to buy was a Super Serial card, secondhand from Eric Sausse. Within an hour of getting the card, the two machines were talking to each other.

Snags? It is only 24k RAM, but that is quite a lot of text and the batteries

last longer. The display is LCD, only eight lines of 40 columns, but you can print out to any column width. Only Text files are transferred. The autodialler is not approved for connection to British phones. It is quite old now, but the "Financial Times" commented this year that it is robustly made, and if you lead an exciting life it is small enough to run with if the guerrillas are after you, and if you do not trust the hotel switchboard you can use the optional extra acoustic couplers on a public telephone at the airport.

□ Which utility makes it easy to change the CREATION date of a file? You may wonder who wants to this, but if you have no internal clock, it is the only way to put a date on a file. Which launchers will LOAD a Basic programme, as opposed to RUNNING it? It can be difficult to remember the special features of a utility, so here is a list to help you select the one you need.

Notes: "anon" is a simple launcher, which replaces filetype with a letter so that you can make a choice, while a running message along the bottom gives other options. I am told it is similar to "PDP" in DOS. There is no author's name on my copy. The advantage is that it takes up so little disc space. "+11" Blocks are for Dogpaw SNEEZE will work on an unenhanced IIe with 80 columns, but not on a II+. It will not delete a sub-directory, not even an empty one. CAT DOCTOR is similarly OK, but you will get some peculiar symbols. Its speciality is sorting a directory so that your favourite SYSTEM file is top of the list. ZAP, as well as chasing files around a disc, will let you work directly with disc blocks.

Mike Bass



Application	USER	UTILS 3.1	SNEEZE	PRODESK	CAT DOCTOR	ZAP	(anon)
Date of release	1983	1991	1990	1990	1988	1987	1984
Type	Filler	Filler	Launcher	Launcher	Filler	Utility	Launcher
Length (blocks)	117	157	34+11	32+11	28	110	6
BASIC needed	YES	NO	YES	YES	NO	NO	YES
IIe	any	enhanced	unenhanced	enhanced	(any)	enhanced	any
Help?	yes	yes	.DOC	.HELP	no	yes	no
Launch	no	no	any size	any size	no	no	yes
BRUN	no	no	(yes)	yes	no	no	yes
Graphics	no	no	yes	yes	no	no	no
LOAD Basic	no	no	yes	no	no	no	yes
View Text/AWP	no	no	Dogpaw	Dogpaw	no format	yes	no
					Incl. Basic		
Read Catalogue	40-col	brief	brief	brief	full data	full data	40-col.
Another volume	yes	yes	menu	menu	tree!	menu	yes
by Slot/Drive	no	yes	no	no	yes	yes	yes
Free space	yes	yes	yes	yes	total 273	yes	
Printer	yes	yes	Dogpaw	Dogpaw	yes	yes	
Search	no	no	Text	no	no	any	
Copy	Pathname!	menu	menu	Pathname!	yes	Pathname!	
				one drive OK			
Lock	yes	yes	no	yes	yes	yes	yes
Delete	yes	yes	(yes)	yes	yes	yes	yes
Create Sub-	yes	yes	yes	yes	yes	yes	
Rename volume	yes	yes	no	no	no	yes	
Rename file	yes	yes	no	yes	yes	yes	
Date CREATED	no	no	no	no	YES	no	
Date MODIFIED	yes	no	no	no	yes	yes	
"DELETE" key	no	yes	no	no	yes	yes	

# Disk Doubling

## Steve T. Bett shows us how to double the capacity of computer disks

### What is an HD disk?

High density (HD) 3.5 in. disks hold nearly twice as much information as double density (DD) disks. They also cost twice as much. This article explains how to convert a DD disk to a HD disk.

Doubling the data storage capacity of a 3.5 inch disk for the Mac is much like doubling the capacity of 5.25 in. floppy disk for the Apple II. On older 143k single-sided floppies, one simply notched the left side of the envelope to turn the diskette into a floppy. With this modification, the single-sided Apple II drive could store data on both sides of the disk. The simple disk doubling procedure created a 286k disk from a 143k disk. On a 3.5 in. double-sided double density (DSDD) disks, instead of notching the left side, one drills or punches a hole. The notch-write enables the flip side of a 5.25 in. floppy. The hole in the plastic case of a 3.5 in. diskette tells the drive to operate in high density mode.

### Mac's SuperDrive makes it all possible

Using a procedure quite similar to the one used on floppies, you can double the capacity of 800k DSDD 3.5 in. micro diskettes. The only problem is that one needs a FDHD "SuperDrive" in order to read the 1440k HD format. These drives were introduced on the Mac II line and became standard on all Macintosh computers produced after January, 1990. The FDHD drives have a number of benefits in addition to allowing you to take advantage of this tip. Not only do they allow you to format and read disks HD disks, they also allow you to read 720k and 1440k IBM PC disks. (Any 800k Mac drive can be used to format, read, and copy Apple II 3.5 inch ProDOS disks).

1.44Mb drives have a media sensor that looks for an additional hole in the disks plastic shell (See Fig. 1.) In most drives, this switch consists of a small pin sized plunger. If the plunger fails to make contact with a solid surface, the disk is identified as a 1400k disk. If it makes contact, the disk is identified as an 800k disk and cannot be formatted or read at 1.44Mb.

### HD Conversion procedure

To double the capacity of a DD density disk, the first step is to buy a few commercial HD 1440k disks. One of these disks will be needed to serve as a template. Place the 1440k disk never the 800k disk

and mark the location for the hole on the 800k disk (See Figure 1.). The location of the hole is just as critical just as the location of the notch was on the floppy disk. Then, using a drill bit with a diameter between 1/16 in. and 3/16 in., drill a small hole in the plastic case. Once set up, it takes about 25 seconds to drill a hole in the plastic shell. A small 1/8 inch hole in the right location is enough to fool the Mac into recognising the disk as one that can accept a 1.44 megabyte (1440k) format.

Commercial disks have square holes but round holes work just as well. What counts is a correctly positioned hole, not the method used to make it. Instead of a drill, one may use a soldering iron or wood burning tool. The best method is to purchase a square hole punch specifically designed for converting DD to HD. These may be purchased for \$40. A punch, such as the Double Disk Converter, has a built in template. This simplifies the task of placing a hole in the right location and speeds up the production of HD converted disks. It takes about 40 minutes to drill 100 disks. With a disk puncher, the time required to convert 100 disks is reduced to about 8 minutes.

Not all plastic protective covers are suitable for drilling. Some trial and error is required to find the best source. Cheaper disks are often poorly bonded and will split apart when they are drilled. If the disk splits, filings and debris can get inside the case. After drilling the hole, blow out any debris and make sure the edges are free of any filings before inserting the disk into the drive. If the hole was not large enough or incorrectly placed, the initialisation screen will show only 400k and 800k formatting options. If this happens, eject the disk, enlarge the hole, and try again.

Unlike the DSDD dialog box, there are no 400k or 800k options listed in the HD initialisation window. If you click on initialise, another screen will appear providing you the opportunity to title the disk. It is not necessary to name the disk at this point. After formatting and verifying the disk, the Mac will display a disk icon on the Finder desktop. If the initialisation fails, the disk will be automatically ejected. This means that the magnetic media was not uniformly dense enough to double the number of sectors. If the initialisation attempt fails, try again at a later date or cover the hole with a write protect tab or piece of sellotape and format at 800k. If the disk fails at 800k, the disk should be degaussed with a bulk eraser before reformatting.

### Reliability of converted disks

Early SSDD disks had metallic oxide on only one side and therefore could not be formatted on the flip side. Later, SS came to mean that only one side was certified. When DSDD disks were first introduced, many were not suitable for high density formatting. To justify HD prices which are 100% to 200% higher than DD, disk manufacturers continue to claim that their HD disks have better coatings are more thoroughly tested than DD disks. Most of today's DSDD disks will take a HD format if you punch an extra hole. The preponderance of actual use evidence suggests that most manufacturers are now using the same magnetic media for both HD and DD formats.

Commercial HD disks are subjected

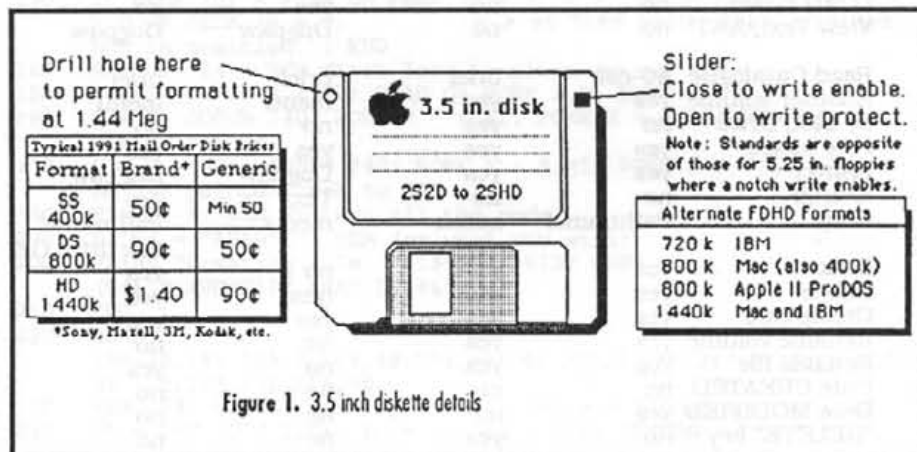


Figure 1. 3.5 inch diskette details



to a higher level of testing. The test for coercivity, for instance, is set at 600 oersteds for DD and 720 oersteds for HD. HD disks are certified as having passed the 720 oersted test. Just as a disk that failed on one side could be sold as single-sided disk, disks that fail the HD test could be sold as DD. If your data is so sensitive that you need the extra insurance of a commercially certified disk, purchase a box of Maxell, Kodak, Sony, Fuji, or some other brand name HD disks. Actually, the risk of data loss is probably lower if you made two back up copies on the less expensive converted DD disks. While not all DD disks will format at 1.44Mb, most do. As yet there have been no reports of catastrophic or even significant data loss from converted DD disks. The basic difference between the two formats is the extra hole in the HD case.

Over 200,000 schools, businesses, and individuals are converting DD disks to HD disks. The failure rate for HD formatting has been reported to be no higher than for DD formatting. In other words, 99% of the time there is no difference between a HD disk and a converted DD disk. One of the punch vendors claims to have converted over 150,000 disks. In two years of testing, they claim, not one converted disk has ever lost any data.

#### Potential savings

Since HD disks are available for around £1 in lots of 25 or more, you may decide that the modifications required to convert a regular disk into a

1.44 Meg high density disk are not be worth the trouble. The savings per hundred disks is £50. This is enough to purchase a commercial punch which makes the HD conversion quick and easy. On the next 100 disks, you will be £50 ahead.

Figure 1. shows the savings that can be realised (Ed. The original article was written in the States!). Local retail prices usually run higher than this. At wholesale prices, difference between DD and HD is only about 50 pence per disk. Four years ago when Apple II users were turning floppies into flippies, the savings were twice as high; closer to £2 per disk. As shown in Figure 1, 3.5" disks are available for under 50 pence in lots of 25 or more and just under 40 pence in lots of 50 or more from several mail order suppliers. Advertised prices of 37 pence per disk do not include shipping and handling.

When one purchases 200 or more bulk, house brand, or white box diskettes, there is always a chance that one or two will fail. Most mail order houses require that you go to the trouble and expense of mailing back the defective disk.

#### Summary

High density (HD) 3.5 in. disks hold nearly twice as much information as double density (DD) disks. The basic difference between the two formats appears to be an extra hole in the plastic shell. By punching or drilling a hole in 3 1/2 in. 720k - 800k DD disks, they can be converted to the more

expensive 1440k HD format. The conversion process takes about 25 seconds with a drill and 5 seconds with a punch. One of the newer FDHD "SuperDrives" is required to read and format the 1.4Mb disks. Converted disks appear to be about as reliable as commercial HD disks which sell for twice the price as DD disks. In most cases, manufacturers appear to be using the same magnetic media for both DD and HD formats. Those sold in the more expensive HD box have an extra hole and are certified as passing a more rigorous testing procedure. At discount prices, HD disk conversion saves £50 per 100 disks.

Steve T. Bett



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# The DSP IIgs Card

## A report from KansasFest promises a dramatic speed increase for the IIgs

□ The following information is to be considered extremely preliminary. It was graciously provided by the developer of the board, Mr. Pete Snowberg.  
□ Preliminary info on the NEW CONCEPTS GS/DSP - KansasFest (7-21-91)

#### A little background...

When I first became aware of the Motorola DSP56001, it became obvious to me that a card for the GS utilizing on just HAD to be made. The two main reasons for creating the were:

1. To pay the rent
2. To put an unheard of amount of processing power in the hands of as many people as possible for as little as possible.

Our goal is to make the GS/DSP board available for a street price of under \$300.

#### What is a DSP anyway?

The DSP, or Digital Signal Processor is a fairly new class of processor that is optimized for performing extremely complex high-speed numeric processing. Just picture a very high-speed CPU coupled with a conventional math co-processor such as the 68882, or the 80387 gone totally mad!

I chose the Motorola DSP56001 for the card because it is packed with power and powerful features, has a VERY nice assembly language, and is quite low in cost.

#### Features of the Motorola DSP56001...

**Speed:** 10.25 million instructions per second (mips) at a clock speed of 20.5 Mhz; 27 and 33.33 mhz versions will be available in the near future for ratings of 13.5 and 16.65 mips, respectively. By contrast, a Macintosh IIx is generally rated at 6 mips, while a stock GS is rated at .35 mips.

**Busses:** The 56001 architecture is divided into three independent 16 bit address spaces, one for program storage and two separate data spaces. Data buses are all 24 bits wide.

**Parallelism:** The data arithmetic logic units (ALU's), address ALU's, and program controller operate in parallel so that an instruction prefetch, a 24 x 24 bit multiplication, a 56 bit addition, two data moves, and two address pointer updates using one of three types of arithmetic (linear, modulo, or reverse carry) can be executed in a single instruction cycle. This parallelism allows a four coefficient Infinite Impulse Response (IIR) filter section to be executed in only four cycles - the theoretical minimum for a single multiplier architecture.

**Precision:** The 24 bit data paths

allow for signal processing with 144dB of dynamic range; intermediate results held in the 56 bit accumulators can range over 336dB.

**Integration:** In addition to the three independent execution units, the DSP56001 has six on-board memories (512 bytes by 24 bits of program RAM, 256 bytes each of 24 bit X and Y data RAM, 24 bit sine/cosine table, positive Mu-law and A-law expansion tables, and bootstrap ROM), three on-chip MCU style peripherals (serial communication interface), a clock generator, and seven buses (four data and three address), making the overall system very compact, low power, and inexpensive.

**Instruction set:** The 62 instruction mnemonics are MCU-like, making programming the 56001 VERY easy. The orthogonal syntax supports control of the parallel execution units. The no-overhead DO instruction and the REP (repeat) instruction make writing straightline code a thing of the past.

**Chip fabrication:** HCMOS for low power consumption.

#### FEATURES of the GS/DSP card

The GS/DSP is a fairly small piggyback mounted board that plugs into the 65C816 socket on the GS motherboard extending forward and to the left (under the power supply). The '816 or cable from an accelerator then plugs into a socket on the GS/DSP. The board does not interfere with the operation of an accelerator in any way. Plugging the directly into the processor socket has a couple major advantages over using a slot-card based design:

1. The board does not take up a slot.
2. Because the DSP has direct access the buses and control signals, it will be capable of transferring data to and from the GS's RAM using processor-direct DMA at 2.6 mhz (slot-based DMA products have a maximum speed of 1.023 mhz). This also means that the DSP can perform DMA to and from ALL 8 megs in a GS regardless of whether or not your RAM card supports DMA.
3. Another benefit of having direct access to the buses is that you can do full VIRTUAL MEMORY on your GS. The card will be capable of 14 megs of virtual memory using dynamically sized swap pages starting at and in any increment of 512 bytes, provided you have the hard disk space. The virtual memory manager will also provide memory protection for multitasking operating systems such as UNIX.

But wait! There's more! Other

features include...

-> 256k of 1 wait state, 24 bit wide DRAM addressable from both the '816 and DS P.

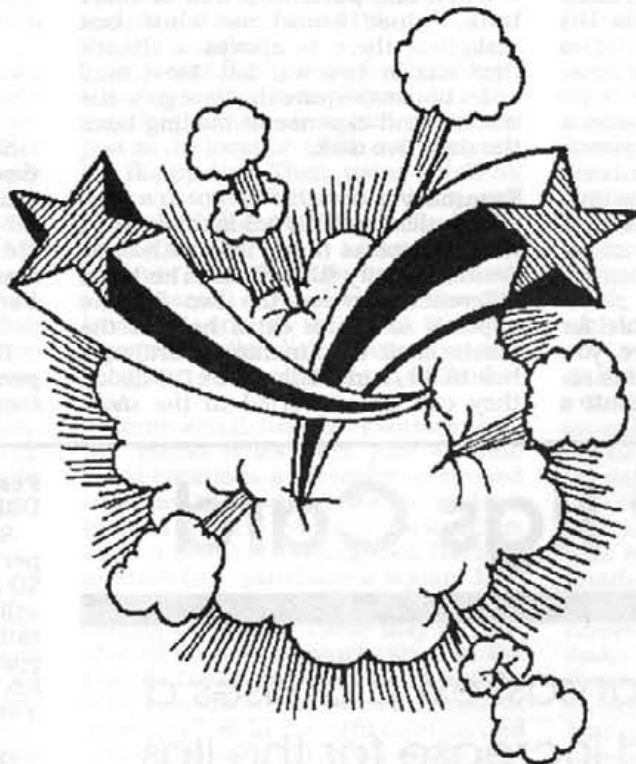
-> 8k of 0 wait state static RAM mapped as 4k for program and 2k for each of the two data spaces as well as contiguously, the same static RAM configuration found in the NeXT line of workstations.

-> 32k of battery backed-up RAM for driver storage.

-> Built-in 8 bit A/D and D/A converters (37khz maximum sample rate) for digitizing, playback, live manipulation of sound.

-> NeXT compatible DSP port for connection of ANY serial device that operates at less than 2.5 mbps such as digital microphones, CD players, DAT players, scanners, etc.

-> 17 piece set of Ginsu knives (not a solid feature, yet!)



-> Optional external sound interface box that contains 16 bit, 44.1 khz, stereo Sigma/Delta A/D converters and their D/A counterparts for CD quality sound manipulation, sampling, and playback. An additional option of a phone line interface will be available that will allow people to WRITE 9600 bps V.32 modems, FAX modems (transmit and receive), and voice mail machines in SOFTWARE on the DSP. This box will plug into the NeXT compatible DSP port.

-> High-speed asynchronous Zbus connector allows you to connect other cards to the DSP for ultra high-speed data transfer (up to about 10mbytes/second). As an example, you could connect a graphics card (VGA, etc.) to the Zbus and use the DSP for accelera-

tion of QuickDraw. The DSP would intercept the tool calls, perform the calculations at blinding speed, and blit the data to a graphics card without bothering the GS.

-> Complete developers package that holds back no secrets. This will allow developers to include DSP utilizing features in their code with greatest possible ease.

#### DSP Software Applications...

Turning to the software end, there will be a large amount of software included with the board (sample source, object code, utilities - such as a virtual memory manager, tools, and applications). And included tool patch, InSANE, will accelerate anything that uses the Standard Apple Numerics Environment (SANE) to levels far beyond anything that you could get with a conventional FPU such as a 68881 or 68882.

Here are just a couple of other possibilities for adventurous programmers. Thanks to the speed of the DSP, this list only scratches the surface.

- Disk caching - DMA RAM disks - Tool acceleration - Modems (300-2400, V.32, FAX, ultra high-speed modems - up to 18,000 bits/sec actual transfer rate before data compression) - Real time audio special effects (flanging, phasing, chorus, delay, echo, reverb, harmonizer, EQ, etc.) - Audio manipulation and editing - High-speed data compression - Ultra high-speed data transfers for graphics acceleration, etc. - 8088, 80286, 80386 emulation - Image enhancement - Dolby surround sound decoder - SAP (second audio program) stereo TV sound decoder - Digital filter research: Fast Fourier Transforms, Discrete-Time Fourier Transforms, Radix-2 Decimation-in-Time / Decimation-in-frequency FFTs, Cascadeable Adaptive Finite Impulse Response Filters - Sound and Music Synthesis - Proportional-integral-derivative controllers - and the list goes on and on.

#### Product availability and information...

The GS/DSP board is expected to be completed by the end of fall '91. Every attempt is being made to make it available for a street price of under \$300. If you would like more info on the board, please write or call:

NEW CONCEPTS ATTN:  
GS/DSP project  
665 West Jackson Street,  
Woodstock,  
IL 60098, 815-338-4227



# The Nibbler Speaks



□ Having had a problem with a hard disk drive the other day I was pleased to see that System 7.0 savvy Norton utilities are now available for the Mac. If you are already an owner of the older Norton and had been using the things that seemed to work with System 7.0, beware of SpeedDisk being used on a drive which was formatted under System 6.0. At the 32mb barrier strange corruptions might well happen to your drive! This bug does not show on drives formatted under proprietary format routines.

□ I was pleased to be invited to visit the Gateway computer club at Mildenhall air base. This group has been going for many, many years now, and can sport up to 10 Apple IIs at a meeting, with only a token Mac thrown in! The club actually has many branches, with the Apple group being only one of them, though the largest with over 80 members. The Apple II side has over 70 of these! The Apple branch meets once a month in the Bob Hope Recreational centre on the base.

Contact Verne Anderson on 01223 764444 for further details. A newsletter is published each month and a group of enthusiasts from the Cambridge User Group attends every month as well. If you do not have transport, and live in the Cambridge area, contact Peter Stark on 01223 845425 who should be able to organise something for you.

Although Mildenhall is a USAF base, The Gateway club welcomes members of the public from the area. You will not need a passport but you will need dollars if you want to buy anything!

□ CD Roms are everywhere these days. From the Encyclopaedia Britannica to a gigabyte of Public Domain software, you just plug in and sample. The most comprehensive source in the UK is KimTec

who have just published issue 6 Vol 2 of their comprehensive catalogue. Contact KimTec UK, Fairways House, 8 Highland Road, Wimborne, Dorset BH21 2QN or phone 0202-888873 for further details. Most of these Roms are Mac compatible though they also stock some for the MSDOS machines. They can also supply you with the CD Rom player itself if you do not already have one.

□ AppleWorks on the Apple II started it all, then Microsoft Works on the Mac, and now GreatWorks from Symantec. Symantec have gathered together many bits and pieces to produce an integrated set comprising, word processing, a database, a spreadsheet, charting, drawing, painting, outlining and communications. GreatWorks is System 7.0 compatible and clocks in at around £99. This is great value and a perfect companion for a Classic 4/40 giving a complete working system for under a £1000 at educational prices. In these days of diminishing grants and student loans, why not sponsor a student by giving him/her a Classic/GreatWorks package for Christmas!

□ Apple for reasons I have talked about before are selling System 7.0, not giving it away as usual. The dealers have their shelves piled high with the 10 disk package. It includes the new HyperCard and has a full set of manuals for both. If you have not yet upgraded now is the time to do so. If you rush to your dealer and purchase at once you will get a booklet of "Software Specials" giving significant discounts on leading software. If you are also contemplating buying new software you will probably save the price of System 7.0 and more ... The System 7.0 package costs £50 excluding VAT.

□ PageMaker users migrating to Xpress 3.0 can now import their PageMaker files into Xpress by using a new PM Import filter from Quark. Contact Niall Corduroy or Louise Stewart Muir at Computers Unlimited on 081 200 8282 for further details. Computers Unlimited also market the Caere Typist which has just been upgraded as announced in Apple Slices. The price is the same at £595 but registered owners should contact Com-

puters Unlimited for a free upgrade.

□ Bill Hammerton down in Southampton runs Computability office and computer supplies. Bill has always been an Apple fan but in sending his latest catalogue I see that he is now supplying MSDOS 5.0. I presume there may be some SoftPC or PC Transporter owners who might be interested in this, but really, who wants to use such a thing? Contact Bill on 0416 716319.

□ I have mentioned Distel before in these pages. Distel is basically a broker of surplus electronic and computer parts. What makes them special is that they have been running a Bulletin Board access to their catalogue and ordering system for nearly ten years now. You can access Distel on 081-679-1888 at speeds of 300/300, 1200/1200 and 2400/2400 baud. They stock all kinds of electronic goodies from uninterruptible power supplies to memory chips and modems. Give them a call on 081-679-4414 and see if they can provide that motor, fan or power supply you have been looking for.

□ Claris are making a big push to dominate the software market. With Resolve they enter the spreadsheet arena. If you already own a spreadsheet you can upgrade to Resolve for £100! They have similar special deals for upgrading to their other products. Contact your nearest Apple dealer for more details.

□ With the new pricing policy of Apple, we expected to see the cost of software plummet as the user base increased. This has not yet happened as it ought to have. The cost of hard drives has dropped, but this is mainly the influence of other computers taking on the SCSI standard. The cost of an MSDOS computer has also dropped. You can see advertised a Mono 286 clone for as little as £300! Though why you would want one is another thing.

Software must get cheaper or Apple will have severe problems. The software publishers must realise that the Apple is their bread and butter. Take it away and they are lost themselves!

**The Nibbler**



# MacLine

123 WESTMEAD ROAD • SUTTON • SURREY • SM1 4JH • VAT No 452 3149 66

FAX 081 642 4621  
081 642 2222

## IMPORTANT MACLINE NEWS

On September 30th we are moving to the above address and telephone number. Please amend your records accordingly.

⑦ means works with System 7.0  
products in italics are new additions

### WORD PROCESSING

<b>WP APPLICATIONS</b>	
MacWrite II ⑦ (powerful yet straightforward WP)	£150.00
Microsoft Word 4 ⑦ (feature and function laden WP)	£185.00
Nisus 3.0 ⑦ (hot WP with graphics, GREPS, macro language)	£215.00
Taste ⑦ (new low cost entrant to a crowded WP market)	£95.00
WordPerfect 2.0 ⑦ (hot new version of famous PC WP)	£199.00
Write Now 2.2 ⑦ (last straightforward WP, a doddle to use)	£85.00
<b>WP UTILITIES &amp; AIDS</b>	
End Note ⑦ (bibliography database desk accessory)	£95.00
Grammatik 2.0 ⑦ (comprehensive grammar checker)	£79.00
Thunder 7 ⑦ (competent spelling checker even works in Quark)	£59.00

### DATABASES

<b>RELATIONAL</b>	
4th Dimension ⑦ (heavyweight of the databases)	£595.00
Double Helix ⑦ (easier DB for starter programmers)	£445.00
FileForce ⑦ (much easier to use and upgradeable to 4D)	£250.00
Foxbase+Mac 2 ⑦ (last DB with great interface reads dBase)	£345.00
Omnis 5 ⑦ (now much faster and more Mac-like interface)	£495.00
<b>FLAT</b>	
DAtabase ⑦ (flat file DA for quick convenient access to data)	£75.00
FileMaker Pro ⑦ (best flat file DB ever - everyone needs it)	£195.00
Panorama ⑦ (flat file DB, very powerful and very quick)	£195.00
<b>DEDICATED</b>	
C.A.T. 3.0 ⑦ (salesman's dream, contacts activities time)	£325.00
Dynodex ⑦ (remarkable tool for managing/printing contacts)	£89.00
QuickDex II ⑦ (phenomenal DA rolodex card database)	£35.00
TouchBase ⑦ (networkable contact database)	£95.00

### BUSINESS

<b>SPREADSHEETS</b>	
Microsoft Excel 3.0 ⑦ (leading spreadsheet, new features)	£225.00
One Shot Worksheet ⑦ (if you don't need all that power)	£59.00
Resolve ⑦ (Claris Corp's new spreadsheet)	£235.00
WingZ ⑦ (amazing spreadsheet includes charting and script)	£245.00
<b>BUSINESS GRAPHS &amp; CHARTS</b>	
DeltaGraph ⑦ (powerful flexible graphing tool)	£95.00
KaleidaGraph (highly rated US graphing package)	£149.00
<b>INTEGRATED SOFTWARE</b>	
GreatWorks ⑦ (best value integrated prog for new users)	£89.00
Microsoft Works 2 ⑦ (WP, DB, Comms, Draw, Spreadsheet)	£125.00
Microsoft Office ⑦ (Excel, Word, PowerPoint, File, bundle)	£425.00
<b>ACCOUNTING</b>	
MacMoney 3 UK ⑦ (unbeatable home accounts and small biz)	£75.00
Path ⑦ (best accounts package for the non accs literate)	£175.00
<b>PRESENTATION</b>	
More III ⑦ (extensive outliner/text/presentation capability)	£89.00
Persuasion 2.0 ⑦ (high end presentations with outliner)	£295.00
PowerPoint ⑦ (powerful intuitive easy presentations)	£189.00

### GRAPHICS

<b>PAINT &amp; DRAW</b>	
Canvas 3.0 ⑦ (high end draw/paint package very good at layers)	£245.00
Desk Paint 3.0 ⑦ (very good DA paint and draw package)	£125.00
MacDraw II ⑦ (easy to use yet powerful draw package)	£155.00
MacDraw Pro ⑦ (now upgraded and hugely powerful)	£275.00
MacCheese ⑦ (super cheap 32 bit colour paint tool)	£59.00
Pixel Paint Professional 2.0 ⑦ (32 bit, the rest as above)	£475.00
Studio 1 ⑦ (unique animating paint package)	£75.00
Studio 8 ⑦ (full featured high end colour paint program)	£145.00
UltraPaint ⑦ (knockout colour paint and draw program)	£125.00
<b>DARKROOM &amp; RETOUCHING</b>	
ColourStudio ⑦ (powerful retouching, free Shapes)	£695.00
Digital Darkroom ⑦ (monochrome photo retouching)	£250.00
Image Studio ⑦ (monochrome photo retouching)	£145.00
PhotoShop 2.0 ⑦ (king of the photo retouching packages)	£665.00
<b>CAD &amp; MODELLING</b>	
Clarif CAD 2.0 ⑦ (straightforward powerful CAD)	£495.00
Infinit-D ⑦ (heating the pack in modelling & rendering)	£495.00
Ray Dream Designer (3D modelling & rendering)	£595.00

### READY FOR SYSTEM 7?

£35.00

<b>SIMM</b>	<b>1Mb SIMMs</b>	£35.00
<b>SM2B</b>	<b>2Mb SIMMs</b>	£79.00
<b>SM4MB</b>	<b>4Mb SIMMs</b>	£140.00
<b>SMFX</b>	<b>1Mb Mac IIFX</b>	£39.00
<b>SM4FX</b>	<b>4Mb Mac IIFX</b>	£140.00
<b>SMFX</b>	<b>LaserWriter II</b>	£39.00

StrataVision 3D 2.0 ⑦ (24 bit photo realistic rendering)	£495.00
Swivel 3D Pro ⑦ (now supports 24 bit colour)	£355.00
<b>POSTSCRIPT GRAPHICS</b>	
Freehand 3.0 ⑦ (PostScript drawing with text manipulation)	£315.00
Illustrator 3.0 ⑦ (power PostScript text and layout ability)	£375.00
EPS Exchange ⑦ (save Freehand files in Illustrator format)	£89.00

### DESKTOP PUBLISHING

<b>DTP APPLICATIONS</b>	
DesignStudio ⑦ (high end DTP program)	£475.00
Multi Ad Creator (specialised DTP for laying out adverts)	£630.00
PageMaker 4.0 ⑦ (one of the two heavy hitters)	£495.00
Publish It Easy 2.0 ⑦ (MacUser US best DTP winner)	£145.00
Quark Xpress 3.0 ⑦ (the other of the two heavy hitters)	£495.00
<b>DTP AIDS &amp; FONT MANIPULATION</b>	
Mariah ⑦ (database for your graphics, search, keywords)	£99.00
LetraStudio (powerful headline font manipulation software)	£215.00
Pre Print ⑦ (colour separates your PageMaker output)	£365.00
TypeStyler ⑦ (manipulates PostScript fonts)	£155.00
TypeAlign ⑦ (draw a wiggly line and type text, needs ATM)	£79.00

### FONTS

<b>TYPEFACES (all ⑦)</b>	
Adobe Fonts	call
ATM Plus Pack (Adobe versions of rest of the Laser fonts)	£110.00
Adobe Type Manager (THE essential DTP program)	£55.00
Bitstream (TrueType font packs 1 and 2)	each £59.00
Fraction Fonts (a Serif and San Serif font for any fraction)	£45.00
Fluent Fonts (huge collection of bitmapped fonts)	£35.00
Fluent Laser Fonts (79 excellent PS fonts)	£130.00
Monotype Fonts (much of the famous library is now on the Mac)	call
TrueType Starter Pack (22 great typefaces)	£69.00
World Class Fonts (great bitmap collections)	each £59.00

<b>FONT FOUNDRIES &amp; UTILITIES</b>	
Adobe Type Reunion (if you use lots of fonts you need it)	£45.00
Fantastic Plus 2 (classic bit map font foundry)	£55.00
Fontographer 3 ⑦ (most popular PostScript font creator)	£295.00
Metamorphosis Pro ⑦ (converts Type 1 & 3 to TrueType)	£95.00

### CLIP ART

Publishers Resource ⑦ (10MB set of UK origin PostScript art)	£99.00
Designers Resource ⑦ (dozens of beautiful EPS backgrounds)	£75.00
MapArt EPSF ⑦ (world maps in PostScript format)	£95.00
MapArt Paint ⑦ (world maps in MacPaint format)	£45.00
PostScript Maps UK ⑦ (counties roads towns, London postal)	£95.00
PostScript Maps Europe ⑦ (cities rivers countries)	£95.00
WebPaint ⑦ (best bitmap art available - 1000's of images)	each £59.00

### MULTIMEDIA

<b>HARDWARE</b>	
Computer Eyes (colour video capture with some FX)	£450.00
NuVista+ (4Mb broadcast quality video board)	£2995.00
Neotech Image Grabber (manipulate video images)	£1050.00
VideoLogic DVA4000 Kit (new multimedia card & software)	£1895.00

<b>SOFTWARE</b>	
Animation Works (great value animation package)	£110.00
MacroMind Director 3.0 ⑦ (key multimedia tool)	£595.00
MediaMaker ⑦ (edit it all into a story for recording onto video)	£475.00
MediaTracks ⑦ (record, edit and playback screen sequences)	£170.00

### PC COMPATIBILITY

Access PC ⑦ (read PC files direct from floppy)	£59.00
DOS Moulder ⑦ (same as above)	£69.00
DOS ReadA (DA that allows Mac to read and write to PC disks)	£29.00
MacLink Plus ⑦ (popular Mac/PC link with 100's translators)	£135.00
Soft PC Mac OS ⑦ (8086 CGA emulation for big Macs)	£240.00
Soft PC 286 with EGA (add on to Soft PC above)	£120.00
Tops Flashcard (LocalTalk card for PC works with Tops DOS)	£110.00
Tops DOS 3.0 (PC version of Tops for Apple networks)	£125.00

### COMMUNICATIONS

<b>SOFTWARE</b>	
Classcom (cut down version of Vicom for basic comms)	£75.00
MicroPhone 3.0 ⑦ (acclaimed comms pack with user icons)	£210.00
Vicom Connect (famous UK package easy to use yet powerful)	£140.00
White Knight ⑦ (very powerful, RedFlyer upgrade)	£99.00

<b>HARDWARE</b>	
TelePort Fax Modem ⑦ (a great product at a great price)	£195.00
WS3000 Modem (rock solid 1200 BAUD modem)	£235.00
WS3000 V22 BIS (rock solid 2400 BAUD modem)	£295.00
Courier HST 9600 baud (fast modem for DTP transfer)	£845.00

### NETWORKING

<b>SOFTWARE</b>	
Carbon Copy Twin Pack ⑦ (remote access and file sharing)	£220.00
DataClub (new pretender to Tops crown starts as 3 pack)	from £165.00
EasyShare ⑦ (cheap but sophisticated file sharing)	£99.00
Graceland 2.0 ⑦ (lousy name, good network analysis)	£245.00
Liason (print router and network dial in)	£245.00
Microsoft Mail Server ⑦ (classic powerful E-Mail)	£165.00
Microsoft Mail 10 User ⑦ (works with above)	£365.00

QuickMail 2.2 10 User ⑦ (powerful flexible E-Mail)	£320.00
Timbuktu 4.0 ⑦ (remote access software for networks)	£85.00
Timbuktu Remote ⑦ (remote access software for modems)	£130.00
TOPS Classic (cut down, cheaper version of below)	£95.00
TOPS 3.0 (classic file sharing software without dedicated Mac)	£145.00

<b>HARDWARE</b>	
Anet (AppleTalk connector boxes)	£25.00
MacNet (PhoneNet connector boxes)	£19.00
Ethernet Boards (thick thin wire or twisted pair versions)	from £235.00
NetModem ⑦ (share one modem over entire network)	from £335.00
NetSerial ⑦ (share serial devices on network)	£250.00

### HARDWARE

<b>INPUT DEVICES</b>	
Floppy Drive 800K (add-on external floppy)	£135.00
Floppy Drive 1.44Mb (add-on external floppy)	£235.00
Gravis MouseStick ADB (serious stick for serious gamesmen)	£95.00
Extended Keyboard (15 function keys, numeric pad)	£105.00
Calcomp Drawing Board II (pressure sensitive tablet)	£345.00
MacMike ⑦ (microphone and software for Macs without mikes)	£42.00
MacRecorder II (classic cult sound digitiser with software)	£165.00
Voice Digitiser (as above without sound edit software)	£95.00

<b>CHIPS and BOARDS</b>	
SIMMs	see box
Brainstorm (more than doubles the speed of a Plus)	£175.00
DoubleUp (NuBus board and compression software)	£215.00
Math Co-Processor Mac LC (speed up your LC)	£125.00
New Life (25MHz 030 accelerator for Mac Plus and SE)	£725.00
New Life Classic (16MHz 030 accelerator for Mac Classic)	£525.00
256 colour VRAM Mac LC (upgrade your LC to 8 bit)	£95.00

### ACCESSORIES

<b>Cables</b>	call
Diskette storage box for 80 discs	£9.00
Mouse Mat (white with MacLine logo)	£4.00
Anti Glare Screens (eases eyestrain)	from £35.00
Security Cable System (is your Mac vulnerable to theft?)	£35.00
Mac II Stand (vertical floor stand with long cables)	£65.00
SE/Plus/Classic Tilt & Swivel stand (a bargain)	£24.00
Mac Carry Bag (Plus, SE and Classic)	£55.00
Toolkit (necessary to open Plus, SE or Classic)	£15.00

### CONSUMABLES

DD 800K Floppy Disks	£0.55
HD 1.44Mb Floppy Disks	£0.95
ImageWriter Ribbons	£3.75
JukeBox (insert up to 15 floppies automatically)	£125.00
Toner Cartridges (laser & inkjet printers)	call

### PRINTERS

GCC PLPII (great laser printer at a great price)	£695.00
GCC PLPIIS (8 page per minute version)	£925.00
HP DeskWriter (superb inkjet, new low price/Appletalk)	£395.00
HP DeskWriter C (now with colour capability)	£595.00
HP PaintWriter (cheapest way to proof in colour 150 DPI)	£850.00
LabelWriter (mini thermal printer produces sticky labels)	£195.00
Oki OL840 (PostScript laser printer at a great price)	£1495.00
QMS PS410 (PostScript laser printer)	£1695.00

<b>PRINTER SOFTWARE</b>	
Freedom of the Press Light ⑦ (mono printers version)	£65.00
ShadowWriter ⑦ (networks StyleWriter and Laser LS printers)	£105.00

### DATA STORAGE

20 Mb external drive (Micronet)	£165.00
42 Mb external drive (Disk)	£275.00
70Mb external drive (Disk)	£325.00
100 Mb external drive (Micronet)	£425.00
210 Mb external drive (Disk)	£675.00
400 Mb external drive (Disk)	£1195.00
600 Mb external drive (Disk)	£1695.00
1000 Mb external drive (Micronet)	£2395.00
Tape Backup 150 Mb (Disk)	£595.00
CD ROM Drive (Hitachi)	£395.00
45 Mb Syquest Removable Drive (Micronet)	£395.00
80 Mb Syquest Removable Drive (Micronet)	£695.00
Syquest Removable 45 Mb Cartridge	£55.00

### MONITORS

Acer/Asuka 14" 8 bit colour system for SE30	£465.00
Hitachi Colour 14" (great alternative to Apple 12" or 13")	£395.00
Mobius SE A4 mono	£895.00
Mobius SE A3 mono	£1095.00
Radius Pivot	from £650.00
Radius Colour Pivot	from £1125.00
Radius Grey Scale 19" system	£1295.00
Radius Direct Colour 19" 8 bit system	£3290.00
Radius Direct Colour 19" 24 bit system	£4090.00

### SCANNING

Animas Colour (24bit colour, up to 400dpi hand held inc OCR)	£495.00
Microtek 600ZS (great quality low cost colour 600 dpi)	£1550.00



## MacLine Policy

- \*Credit cards will not be charged until the order is shipped.
- \*If a partial order is despatched, the balance is posted free of additional postage charges.
- \*All goods are sent by Recorded First Class Mail or by a courier service. A signature is required on delivery.
- \*Same day motorcycle delivery in London area is available.
- \*Defective software is replaced immediately.
- \*Refunds will only be given on unopened packages that are returned within 7 days of receipt.
- \*Prices are correct at time of going to press. £8.0E.

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Authorised Apple Dealer

## Ordering & Payment

- \*To order call Monday - Friday, 9.00 am to 7.00 pm.
- \*DELIVERY. Add £3.00 on orders up to £150.00 in value. Add £6.00 on orders between £150.00 & £750.00 in value. Add £12.00 on orders above £750.00 in value.
- \*Add VAT to the total price, except on books.
- \*Payment is by credit card, cheque or money order.
- \*Government depts, Ed.establishments and Plc companies are welcome to purchase with an official order subject to status.
- \*International orders accepted with credit card only. Postage added at cost.

OmniPage (best OCR currently in existence needs 4Mb)	£499.00
OmniDraft (add in to above for dot matrix OCR)	£75.00
OmniSpell (spelling checker for OmniPage)	£75.00
RicoH 3222 (256 Grey Scale with software)	£895.00
Read-It 2.0 (first OCR package sold widely)	£295.00
Read-It Personal (budget OCR for handhelds)	£155.00
ScanMan (biggest selling handheld scanner)	£290.00
Scan X Pro (scans up to 1500 DPI/256 greys)	£1295.00
Sharp JX 300 (superb quality A4 colour scanner)	£1895.00
Typist (handheld with best built in OCR needs 4Mb)	£445.00

## PROGRAMMING

ProGraph (new programming tool)	£245.00
Prototyper II (creates C code for Windows Menus Dialogs)	£195.00
QuickBasic (a little BASIC zinger from Microsoft)	£55.00
SuperCard (alternative to HyperCard has powerful language)	£210.00
Think C 4.0 (PageMaker was written in this)	£135.00
Think Pascal 3.0 (it probably could be rewritten in this)	£135.00
TMON (debugger catches your Mac when your app crashes)	£98.00
ZBasic 5 (heavyweight BASIC with good toolbox access)	£125.00

## UP TO 12 YEARS

Cosmic Osmo (magical interactive audiovisual adventure)	£47.00
Cosmic Osmo CD (as above only bigger on the CD)	£59.00
KidsTime (5 classic learning programs for the 3 to 7 year old)	£35.00
KidsMath (takes kids from counting to applied arithmetic)	£35.00
KidPix (wonderful paint prog with sounds)	£32.00
The Manhole (like Cosmic Osmo only different)	£35.00
The Manhole CD (as above only more of)	£59.00
NumberMaze (award winning arithmetic tutor)	£39.00
ReadingMaze (essential reading skills)	£39.00
Reader Rabbit (award winning program for teaching reading)	£39.00

## FROM 10 YEARS UP

Astrix (detailed astrological horoscopes and charts)	£39.00
Calculus (intro course to the classic curriculum)	£59.00
EarthQuest (heralds a new type of multi curricular learning)	£55.00
Eco Adventures (environmentally aware adventure game)	£39.00
EuroStack 2.0 (info gathering resource for Europe)	£55.00
EuroGuide UK (add maps scans info to UK shell)	£55.00
NumberMaze Decimals & Fractions (helps older kids)	£39.00
Physics (complete course in classic mechanics)	£59.00
Voyager Astronomy (view the heavens on your Mac)	£85.00
Where in World is Carmen San Diego? (geography based)	£31.00
Where in Europe is Carmen San Diego? (geography based)	£31.00
Where in Time is Carmen San Diego? (history based)	£31.00

## Word Torture Language tutor:

French, Spanish, German, Russian	each £35.00
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Special low Education prices are available on some products, including Microsoft, Claris, Symantec and others to authorized educational establishments with Educational Purchase Orders.

## CD ROM

Hitachi CD ROM Drive (quality drive)	£395.00
Amanda Stories (stories for young kids)	£75.00
Bach Brandenburg (the concertos and all about them)	£75.00
Beethoven's 9th (the symphony and all about it)	£75.00
Beethoven's String Quartet 14 (the quartet and all about it)	£49.00
Mozart Magic Flute (the opera and all about it)	£49.00
BMUG (huge collection of public domain and shareware)	£75.00
Club Mac (400 Mb of public domain and shareware software)	£195.00
CD Fun House (50 mb of games)	£55.00
Countries of the World (600 mb of compressed software)	£295.00
Desert Storm (the Gulf war history)	£35.00
Discs Kids Stories (well known childrens books)	each £75.00
Groliers Encyclopedia (21 volumes, 9 million words)	£235.00
Learn to Speak French (ah... learn to speak French)	£235.00
Merriam Webster Dictionary (the Oxford not on Mac CD yet)	£175.00
Shakespeare Complete Works (at your fingertips)	£79.00
Sherlock Holmes Complete Works (put your feet up)	£95.00
SpaceShip Warlock (tabulous animated game)	£79.00
The Manhole (tabulous graphic adventure for kids)	£59.00
Time Table of History (the history of history)	£110.00
Time Table of Science (the history of science)	£110.00
Virtual Valeri (ever so slightly naughty graphic story)	£80.00
World Fact Book (248 comprehensive country profiles)	£70.00

## MUSIC

Concertware + (instrument maker composer and player)	£45.00
Concertware + MIDI (as above for MIDI)	£125.00
Practica Musica (teaches music theory and ear training)	£79.00
Super Studio Session (8 voice composer and player)	£69.00
MIDI Interface	£57.00

## UTILITIES & DA's

### FILE & DISK MANAGEMENT

911 Utilities (the pro's file & disk recovery)	£99.00
Complete Undelete (recover trashed documents)	£39.00
Can Opener (view data files without parent application)	£75.00
ClickChange (interface customisation)	£65.00
DirFactory (brilliant floppy and/or hard drive file logger)	£59.00
Disk Express II (speed up, unfragment hard drives)	£55.00
DiskDoubler (file compaction to save space)	£59.00
Disk Top 4 (powerful DA finder)	£69.00
File Director (9 essential DA's and Finder enhancement)	£75.00
Gofor (search key words in multiple text files)	£54.00
HandOff II (no more "application is busy or missing")	£59.00

Impressit (software only compression from Radius)	£125.00
InitPicker 2.0 (choose startup limits)	£35.00
MasterFinder (time saving finder utility)	£55.00
MultiDisk (best hard disk partitioner)	£59.00
Norton Utilities (hard disk utils from the PC)	£65.00
New Utilities (12 wonderful DA's & DA's. Essential!)	£75.00
On Cue (launch applications and documents from menu bar)	£39.00
On Location (lightning fast file location)	£85.00
Personality (allows customisation of the Mac interface)	£55.00
Shortcut (extra commands in open dialogue box)	£49.00
SuperDisk (file compression)	£59.00
SUM II (essential utilities plus guard against crashes)	£89.00

### SECURITY

After Dark 2.0 (screen saver with many options)	£24.00
After Dark 2.0 (25 great new screens)	£20.00
A.M.E. (very sophisticated data security)	£195.00
DisLock (reasonably priced data file security)	£105.00
Empower I (file & data security)	£120.00
Empower II (sophisticated file & data security)	£225.00
MacSafe II (file security)	£95.00
FileGuard (data encryption)	£145.00
Nightwatch (hard disk security)	£75.00
QuickLock (lock out prying eyes from your data)	£32.00

### BACKUP & VIRUS PROTECTION

AutoSave (saves your work at user determined intervals)	£29.00
Backmatic (for those who hate backing up)	£55.00
DiskTwin (constant HD duplication security)	£595.00
FastBack (very fast and compact)	£105.00
NightShift (sophisticated network backup)	£525.00
Redux (best value backup program on the market)	£59.00
Retrospect (most sophisticated archival backup)	£130.00
Retrospect Remote (THE solution for network backup)	£225.00
SAM 3.0 (Symantec's anti virus utility)	£79.00
Virex 3.5 (best virus tracer & eradicator of all)	£65.00

### PRODUCTIVITY ENHANCERS

Calculator Constructor 2 (create DA calculators)	£69.00
Calendar Maker (customisable calendars)	£39.00
CalenDAr (brilliant alarm, reminder and diary system)	£32.00
DiskPaper (print to disk from any application)	£95.00
Dynopage (allows printing of anything to floppay paper)	£89.00
Exposure Pro (screen dump utility with paint tools)	£82.00
Hyper DA II (read HyperCard files from a DA)	£49.00
MacList (simple DA list manager)	£45.00
Master Juggler (100's DA's & fonts bypassing F/DA Mover)	£59.00
Maxima (access more than the 8Mb limit of RAM)	£85.00
Meeting Maker 5 user (sophisticated network diary)	£245.00
Mode 32 (allows 32 bit addressing in older Macs)	£115.00
MultiClip 2.0 (multiple copies & pastes)	£65.00
QuickKeys 2.0 (macro maker, time saver utility)	£99.00
QuickDex II (lightning fast DA database, essential)	£35.00
Screenshot (low cost full featured screen dump utility)	£35.00
Stepping Out 2 (software big screen extender)	£59.00
Smart Alarms (DA reminder/diary system)	£65.00
Smart Alarms multi user (network diary version)	from £125.00
SmartScrap & Clipper (enhanced scrapbook)	£65.00
stopWatch 3.0 (client & project time/activity monitoring)	£65.00
Stuffit DeLuxe (premium file compression program available)	£85.00
Suitcase 2 (manages 100's DA's & fonts)	£49.00
SuperGlue II (print images to disk)	£69.00
SuperSpool (best ImageWriter spooler)	£59.00
SuperLaserSpool (Laser & ImageWriter spooler)	£85.00
Talking Moose (not a productivity enhancer)	£23.00
Tempo II (the most powerful macro maker)	£99.00
WindowWatch (logs time usage of windows)	£75.00

## ENTERTAINMENT

### ARCADE

Aqua Bloop (fill pipes together before it floods)	£29.00
Beyond Dark Castle (more of the classic game)	£31.00
Crystal Quest 2 (Britain's favourite game)	£29.00
Colony (loosely based on the movie "Aliens")	£24.00
Dark Castle (the classic Mac game still going strong)	£31.00
Faces (from the Tetris people)	£24.00
Glider (fly a glider through eerie house, best new game)	£29.00
Hostage (anti terrorist rescue mission)	£29.00
Mission Starlight (addictive space shoot 'em up)	£29.00
OIDS (addictive space shoot-em-up)	£25.00
PipeMania (arcade game from Lucas Films)	£24.00
Shufflepuck (air table ice hockey)	£26.00
Sky Shadow (shoot 'em up from the Crystal Quest author)	£29.00
Tetris (award winning colour Soviet game)	£24.00
Welltris (3 Dimensional Tetris, could drive you insane)	£24.00

### SIMULATIONS

4th and Inches (manage an American Football team)	£19.00
Chucky Yeager Flight Trainer (colour & different aircraft)	£25.00
Crazy Cars (exciting driving simulation)	£24.00
The Cycles (excellent motorcycle racing sim)	£27.00
Flight Simulator (the famous Microsoft one)	£39.00
Falcon 2 (exciting & networkable flight simulator)	£34.00
Ferrari Grand Prix (the best formula one simulation)	£36.00
Fokker Triplane (World War One flight simulator)	£29.00
Hunt For Red October (read the book, see the film...)	£21.00
Jack Nicklaus Golf (highly rated simulation)	£32.00
Life and Death (be a doctor, perform actual operations)	£24.00
MacGolf (superb graphics (Plus & 1Mb SE only))	£35.00
MacGolf Colour (highly addictive (all other Macs))	£56.00
MacSki (get in shape for the slopes)	£42.00

Mean 18 (alternative colour Golf simulation)	£27.00
Mustang P51 (fighter plane simulation)	£39.00
Net Trek (multi player network space game)	£39.00
PT 109 (graphic patrol boat simulation)	£29.00
Sim City (design and run your own city)	£32.00
Sim City Colour (design and run a colour city!)	£52.00
Sim Earth (design and run your own planet)	£49.00
Space Rogue (equivalent of Elite only better)	£27.00
Strategic Conquest (top war simulation)	£39.00
The Duel Test Drive (race your Porsche round California)	£32.00
Vette (race a Corvette through San Francisco)	£34.00

### STRATEGY

Ancient Art of War (Sun Tsu's high quality war simulation)	£26.00
Ancient Art of War at Sea (seafaring version of above)	£26.00
Balance of Power (use political strategy to keep the peace)	£24.00
Balance of Power 1990 (sequel to the best seller)	£24.00
Balance of the Planet (save the environment and world)	£32.00
Darwins Dilemma (based on evolution)	£29.00
Guns & Butter (run your own country)	£27.00
Patton vs Rommel (strategy war game)	£19.00

### ADVENTURES

Citadel (fantasy adventure)	£29.00
Deja Vu (hard boiled private detective adventure)	£24.00
Deja Vu II - Lost in Las Vegas (the sequel)	£24.00
Manhunter New York (excellent graphic adventure)	£35.00
Manhunter San Francisco (the adventure continues)	£35.00
Spaceward Hol (explore and colonise a galaxy)	£49.00
Trust & Betrayal (intuition, ethics not bullets)	£24.00

### BOARD GAMES

Bridge (from novice to advanced playing levels)	£29.00
Chess Champion (best Chess game now)	£25.00
Go Junior (award winning version of famous game)	£21.00
Ishido (award winning oriental Go/Mah Jongh style)	£32.00
Solitaire Colour (with beautiful graphics)	£24.00
Shanghai (Mah Jonghish game with stunning colour)	£21.00
Stratego (award winning classic war game)	£27.00
Tesserae (colour matching mind stretcher)	£29.00

### KEY Works on:-

- Plus & SE only, → Plus, SE, II, → Plus, SE, II, CX and SE30
- Many games do not work on the Ci, FX, Classic, Si, LC and Portable.
- Please enquire before ordering games to run on these machines.

## BOOKS & TRAINING

Apple Macintosh Book	£19.95
Big Mac Book	£27.45
Canned Art	£27.50
Collier's Rules for DTP	£14.95
Complete HyperCard 2.0 Handbook	£27.45
Complete Book Of Mac	£23.00
DTP by Design	£23.95
Dr. Macintosh	£17.95
Encyclopedia Macintosh	£22.95
Excel 3.0 Made Easy	£15.95
Flying in PageMaker	£5.95
Inside Mac Vol 1, 2, 4, 5	each £23.95
Inside Mac Vol 3	£19.25
Inside Mac Vol 6	£34.95
Inside AppleTalk	£30.55
Inside HyperCard 2.0	£19.95
Inside Mac X-Ref	£8.95
Inside the Apple Macintosh	£19.95
Little Mac Book	£9.95
Macintosh Family Hardware Reference	£23.35
Mac Revealed 1 - 4	each £23.95
Mac LANs	£19.95
Macintosh Bible 3rd Edition	£26.00
Macintosh Bible System 7.0 Book	£12.95
Macintosh Bible "What do I do now" book	£12.95
Macintosh Font Book	£19.80
The Macintosh Way by Guy Kawasaki	£18.95
The Mac is not a Typewriter	£8.25
Mac Classic Book	£22.95
Making Art on The Mac II	£20.95
Mastering Illustrator 88	£21.95
Mastering FreeHand	£19.50
Mastering PageMaker 4.0	£22.50
Mastering Wing2	£22.95
Macworld Networking Bible	£26.95
PostScript Tutorial & Cookbook	£16.00
Quark XPress 2.0 Companion	£12.50
PageMaker 4.0 Made Easy	£19.95
ResEdit Reference	£13.45
Stupid Mac Tricks	£17.95
System 7.0 Book	£20.95
Using Aldus PageMaker	£22.95
Using FileMaker	£22.95
Using Microsoft Word 4	£20.95
Using Quark Xpress 3.0	£18.95
Technical intro to the Mac Family	£17.25
WorldPerfect 2.0 for the Macintosh	£22.95
Works for the Macintosh	£17.95

### TRAINING

Typing Instructor Encore (good training from basics to touch)	£25.00
MacTeach (specify Mac) (audio/disk training)	each £55.00
Professor Mac (new training - use your Mac to learn your Mac)	£29.00
Training for PageMaker 4.0 (Mac based application training)	£49.00
Training for Word 4.0 (Mac based application training)	£49.00

MacLine Britain's first Macintosh mail order company



# MacChat

## Norah Arnold looks at the latest press releases and product news.

### Claris Resolve Spreadsheet Ships

Claris Corporation have announced that Claris Resolve, the Macintosh spreadsheet for visible results, is now shipping and available at authorised Claris dealers in the UK.

Resolve features an intuitive user interface that combines ease of use and colourful graphics with powerful new spreadsheet functionality. With Resolve, even first-time Macintosh users can quickly create financial models, analyse numerical data with charts and graphs, and publish professional full-colour reports. And Resolve offers advanced features, including a robust scripting language, to enable sophisticated users to automate repetitive tasks or create their own custom solutions.

"Resolve lives up to Claris' unique reputation for powerful but easy to learn software," said Steve Johnson, Managing Director of Claris UK, "so this will satisfy the needs of a very broad range of spreadsheet users. Anyone looking for power in their spreadsheet should glance at the scripting language alone; it's much more powerful and flexible than the macro approach."

The tight integration of Resolve with other products in the Claris family gives existing Claris customers a consistent user experience, enabling them to get up to speed on Resolve quickly.

Resolve takes full advantage of System 7, enabling users to tap into the power of Resolve from other applications. Resolve is the second System 7-savvy application Claris has shipped, following MacProject 11 2.5

### Key Features and Benefits

#### • Accessible Spreadsheet Performance

Resolve features powerful spreadsheet capabilities designed to be easy to use for even novice users. It includes 149 built-in functions that allow users to easily create financial, statistical and mathematical models and also features one-step charting.

In addition, Resolve incorporates familiar Claris interface features, such as on-line context-sensitive help, multiple zoom levels, spell checker, pop-up colour and tool palettes and more.

#### • Expressive Worksheets and Reports

Resolve enable users to present their results persuasively and colourfully with 25 chart types, including polar, wireframe, contour, surface and true three-dimensional (3-D) charts.

With a comprehensive set of object-oriented, MacDraw-like, drawing tools users can quickly and easily combine illustrations, text, charts and more on a single page for professional full-colour reports.

#### • Unparalleled Extensibility

The built-in, fully-functional scripting language of Resolve empowers users of all levels with the ability to control all aspects of the program. Novice users can create scripts without coding and attach them to HyperCard-like buttons for automating common business tasks. Advanced users can create more sophisticated scripts that access Pascal or C external procedures. In addition, Resolve enables users to import and export a wide variety of popular

file formats, including Microsoft Excel 2.2, Informix Wingz 1.0, WKS, WK1, DIF, SYLK and Text.

#### • Optimised for System 7

Resolve supports publish and subscribe, both standard and custom Apple events, Balloon Help, TrueType and Virtual Memory.

### Price and Availability

Claris Resolve is now shipping in the UK.

The suggested UK retail price for ClarisWorks is £275. Current UK owners of Microsoft Excel, Informix Wingz, Lotus 1-2-3, Bravo Technology MacCalc and Ashton-Tate Full Impact can upgrade to Claris Resolve for £100 plus shipping and VAT.

Additionally, Claris is offering two special Claris Resolve introductory offers:

- Buy two different qualifying\* Claris products, and receive Claris Resolve for free.

- Buy one qualifying\* Claris product, and receive Claris Resolve for 50% off the suggested retail price of £275.

\* Qualifying products are full retail or education units (except multiple packs) of FileMaker Pro, MacDraw Pro, MacDraw 11, MacWrite 11, MacProject 11, Claris CAD, MacPaint and SmartForm Designer. See your local Claris Authorised Dealer for full details.

Exclusive UK distribution is through Frontline Distribution Limited, Intec 1, Wade Road, Basingstoke, Hants, RG24 0NE. Tel: 0256.463344. Distribution in the Republic of Ireland is available through MicroWarehouse, 60 Merrion Square South, Dublin 2, Ireland. Tel: (353) 1 - 611203.

### Aldus UK launch Graphic Arts Campaign with Aldus Creative<sup>2</sup>

Aldus UK have launched their Graphic Arts Campaign with the introduction of a new software package aimed directly at the needs of the Graphic Arts market. Aldus Creative<sup>2</sup> brings together in one box the powerful page assembly facilities of the leading desktop publishing program, Aldus PageMaker™, and the creative flexibility of Aldus FreeHand™. To



help new users towards greater creativity and efficiency, the package also includes a voucher for "An Introduction to Creativity with Aldus", a one day hands-on workshop designed to familiarise the user with the techniques and potential of the technology.

Aldus Creative<sup>2</sup> offers an ideal solution for people working in the Graphic Arts market who are looking to take advantages of the new opportunities offered by personal computers. From a single source Aldus Creative<sup>2</sup> offers these users the facilities needed to control the design and produce a wide range of printed work from simple advertisements through to complete magazines, packaging and corporate identities.

"Aldus Creative<sup>2</sup> will benefit people working at all levels of the design and production process" explains Kevin Miller, Product Marketing Manager for the program. "Creative types will be able to experiment and express their ideas more freely, while those on the production side will benefit from increased efficiency and control."

Aldus Creative<sup>2</sup> is available from 1 July 1991 at a price of £995. The recommended configuration is a Macintosh II family with a hard disk and 4M of RAM. It also requires System version 6.0.5 or higher, Finder version 6.1 or higher. Aldus Creative<sup>2</sup> is System 7 aware.

Aldus UK Limited  
39 Palmerston Place  
Edinburgh, Scotland  
United Kingdom, EH12 5AU  
Tel 031220 4747

### **Young Software Designer Award Winners 1991**

Alan Biggs, a 22 year old Software Engineering student from Hatfield Polytechnic is the new Blyth Software Young Software Designer of the Year. He beat off entries from students in universities and polytechnics not just across the UK but from as far afield as Bangladesh and Zimbabwe.

The awards were made by Sir Crispin Tickell, Warden of Green College, Oxford and Britain's former Ambassador to the United Nations, at the Cotswold Lodge Hotel, Oxford, earlier this year.

The £2,500 top prize was the

Paul Wright Memorial Bursary, presented by Blyth Software in memory of the company's founder and former chairman who died in September 1990, and awarded to the entry which showed most commercial potential or capacity for future development.

It will enable Alan to extend his studies, undertake a research project or even to take his application to market.

ProGen, Alan's ingenious application, is a genealogical database for storing family records. The judges felt it was extremely well presented in terms of both graphics and functionality, with a real future for potential commercial development.

"Naturally I am delighted, but also very surprised. I wasn't expecting to win anything, let alone the Bursary Award," said Alan, "It really would be a dream come true to see ProGen commercially marketed and on sale."

Speaking at the presentations Sir Crispin Tickell, a non-executive director of IBM and an expert on climatology and the environment, said: "I believe that in 20 or so years' time the world will be substantially governed by the use of computers and therefore the importance of getting the right people coming into the industry as researchers, developers and programmers cannot be over estimated."

Sarkiss Brandaro, a student at Oxford Polytechnic won the prize for the "Most Original Application" with his program for a full scientific relational Database Management System. He wins a Mac Classic computer donated by the award sponsor, AppleCentre (West London).

Greg Willis, a student at Brighton Polytechnic although currently on a year's industrial placement in London, won the award for the "Best Presented Application" with his HelpDesk program - a system for logging and tracking help desk telephone calls. He wins a Tulip DC 386sx computer donated by the award sponsor, Tulip Computers UK.

David Seaman, Managing Director of Blyth Software and chairman of the judging panel, said: "The overall standard of the entries was definitely higher than

previously and it was very difficult to make final decisions from the applications which were short listed."

"In the end we decided to award a Special Commendation in addition to the existing award categories and prizes donated by the various sponsors."

Blyth Software, based at Mitford House, near Saxmundham, Suffolk, is the developer and international vendor of the Omnis range of single and multi-user database software for the Apple Macintosh and IBM range of personal computers.

For further information please contact:

Debbie Charman Blyth Software Limited (0728) 603011

### **DiskDoubler 3.7**

Amtech International Limited, on behalf of Salient Software Inc., have announced DiskDoubler 3.7. DiskDoubler 3.7 is faster, easier and even more powerful. The improvements are:

- Fully supports the features of System 7.0 (totally "savvy"!), yet is compatible with 6.04 or higher.
- Gives a compression ratio of from 2:1 to 15:1.
- Up to 50% faster compression and expansion.
- Creates compressed backups easily.
- Offers self-expanding files for use in telecommunications.
- Copies files twice as fast as using the Finder.
- Operates completely in the background under System 7.0.
- Compresses files 25% smaller than before.

Existing users can upgrade to DiskDoubler 3.7 for £15.00 (plus VAT and despatch costs) including diskette, new manual.

For further information contact Salient's exclusive UK distributor: Amtech International Limited  
Mulberry Court  
Stour Road  
Christchurch  
Dorset BH23 1 PS

Tel: 0202-476977  
Fax: 0202-479583

# HP DeskWriter

## Ewen Wannop puts this excellent and affordable alternative to the LaserWriter through its paces

When Apple changed the rules over its pricing policy last year, there were some inevitable changes that rippled through the marketplace. The StyleWriter weighing in at around £300, costs not much more than a good dot matrix printer, yet gave us a quality of printing we would normally expect from a laser printer. Hewlett Packard already had such a printer on the market, but at a considerably greater price. They responded by immediately dropping the DeskWriter to a more reasonable level. In reviewing the HP DeskWriter we must therefore inevitably compare it with the StyleWriter both in performance and value for money.

### Background

Even the humblest of computers can run a word processing application. There is usually not much point in preparing word processing files if you cannot obtain hard copy of the end result. The quest for a cheap high quality printer has been part and parcel of the history of the micro.

The first printer to be marketed by Apple was the Silentwriter. This tiny printer by today's standards, ran quietly and quickly and used a thermal imaging paper. The only alternative at that time was an expensive dot matrix printer or the even more expensive daisy wheel printers.

The daisy wheel remained the best quality that could be achieved with the NLQ dot matrix running second for some years. It was not until we saw the introduction of the LaserWriter that we began to see how good printing from a micro could be. The introduction of the LaserWriter made Desk Top Publishing possible with its high quality printing using Postscript fonts

and its high quality image drawing using built in QuickDraw routines.

The problem however, one that is still with us today, was that the print quality of the LaserWriter had a nasty price tag attached. Licensing Postscript costs a lot of money. The cheapest Apple Postscript printer checks in at nearly £2000. Apple tried to cut the cost by introducing the Personal LaserWriter LS without a Postscript interpreter, but this has some very basic limitations when it comes to encapsulated graphics used within Desk Top Publishing.

The MSDOS world, at first not having the luxury of Postscript, developed their own range of laser printers. As these did not have a Postscript interpreter they were considerably cheaper than the Apple ones. The search was now on for a really cheap printer that could print with high quality on the Apple. The first to win the race was the Hewlett Packard DeskJet. This was a general purpose printer using an ink jet cartridge. This method of dispensing the ink to the paper has both advantages and disadvantages. As a printer it is relatively cheap to make, gives a high quality image, but tends to leave you with wet ink on the paper at times.

The DeskJet was first aimed at MSDOS and general printing solutions. However Hewlett Packard were not slow to realise there was a large market in the Macintosh world. They quickly produced the DeskWriter, a custom adaptation for the Macintosh and LocalTalk network.

Apple followed recently with their tiny StyleWriter printer. They had already used the name Silentwriter or I am sure this would have been the name for the new bubble jet printer. The StyleWriter uses a

Canon bubble jet engine. The bubble jet uses a similar method of dispensing ink as the pure ink jet. We can therefore compare the two printers as alternatives to the more expensive laser printers.

A printer essentially consists of two parts. First we have the firmware that interfaces with the computer collecting and processing the image data. Second we have the actual hardware that turns this information into ink on the paper.

### The Laser engine

The daisy wheel printer has been the odd one out in all the printers I have talked about so far. It uses a wheel having raised type that can be struck on to the paper through a carbon ribbon. This is similar to the operation of a typewriter and in fact modern typewriters now use this principle.

All other printers build up the characters by using a series of dots. In the case of a dot matrix printer there are usually a minimum of eight dots high by about six dots wide. This is around 60 by 60 dots to the inch. The laser writer uses a minimum of 300 by 300 dots to the inch as also does the DeskWriter. The StyleWriter uses 400 dpi.

All laser writers use the Xerox process to do the actual printing. Unlike most photocopiers laser writers use a laser diode rather than a lens to transfer the image to the selenium coated drum. From there powdered ink is attracted to the drum and transferred to the electrostatically charged printing paper. A pair of heated rollers then fuse the powdered ink onto the paper. The main advantage of a laser writer is its speed of operation. An A4 sheet can be printed in less than 8 seconds and the paper is dry when it leaves the machine. The main disadvantage is that the quality of the printout depends on the texture of the printing paper. Too coarse a paper and the ink will not fuse correctly. Too fibrous a paper and the powdered ink will tend to spread before it is fused. The choice of paper therefore is quite critical.

At Apple2000 we use Melotex coated paper to proof the magazine pages, though there are other papers available which are made specially for this purpose. Using a cheap copy paper leaves you with a slightly smudged appearance of fine



letter forms. Typically an ultra light font may look twice the weight it ought to on ordinary copy paper.

### The Ink Jet engine

The ink jet printer uses a cartridge full of liquid ink similar to the ink used in fountain pens. At the foot of the cartridge is a line of tiny holes. There are about 50-60 of these allowing a strip 3 1/16ths wide to be printed at each pass of the head. The printing head is in fact this ink cartridge and so is renewed with every new cartridge. Ink is drawn out of the head by applying a charge to the appropriate hole which then draws out a tiny jet of ink on demand. The jet of ink shoots out onto the paper beneath. By successive passes of the head the complete page is printed as required.

### The Bubble Jet engine

The Canon bubble jet engine uses a cartridge of ink that looks very similar to the cartridge used in the ink jet printers. However instead of drawing out the ink by means of an electrical charge, the ink is heated by a tiny heating element. The ink then vaporises producing a tiny bubble of gas which forces the ink out of the holes at the foot of the printing head. The main advantage of the bubble jet seems to be that the ink on the page is somewhat drier than the ink jet. There seems to be a small area on the bubble jet head that might be heated and this may be the reason.

### The Hewlett Packard DeskWriter

As I have mentioned already the DeskWriter is built round the HP Desk Jet engine. However instead of the usual parallel interface of the MSDOS world, it has a standard Apple style mini 8 connector. The interface is a dual one having both AppleTalk or direct connect capability. If the printer is connected through an AppleTalk connector it will use AppleTalk. If it is direct connected it will connect using serial 57.6k baud logic. This allows it to be used not only with the Macintosh, but by using a direct connection from the IIGs. Drivers are included for use with the Macintosh. The Harmonie printer driver for the IIGs can be obtained from Bidmuthin. This must be used with the PORT.BXY driver on this months Xtras disk.

The printer is quite bulky compared with the StyleWriter being about the same size as an ImageWriter. It weighs hardly anything at all and so is quite portable nevertheless. Like the StyleWriter it is driven from a separate calculator like powerpack. This probably means you could run it from a battery when you finally get hold of one of the new pocketbook Macintoshes!

The DeskWriter is styled in the obligatory Apple platinum coloured plastic and comes with a comprehensive Owner's Manual and Quick Setup Guide. Included with the printer are an installation disk and font disks with Courier, Triumvirate (Helvetica), Symbol and Times. The installation disk has the necessary printer driver to place in your system folder and also has the screen fonts for Courier, Helvetica, Symbol and Times. The printer driver works cleanly with System 7.0 but does not support print spooling. I have continued to use my normal Postscript or TrueType fonts with the DeskWriter so the two font disks were not needed. However if you do not have such fonts then they will be needed. You can also purchase a separate Font Collection having Bookman, Avant Garde, Palazzo (Palatino), Century Schoolbook, Triumvirate Condensed (Helvetica Narrow), Zapf Chancery and Zapf Dingbats. With these extra fonts you have the complete set normally found on a LaserWriter. A connecting cable is not included, you will have to contact Apple2000 for this.

### Using the DeskWriter

Using the DeskWriter is simplicity itself. You simply put the driver into the system folder and select the correct setting from the Chooser, either the direct connect icon or through the AppleTalk DeskWriter icon. From there on you print as usual. Depending on the program you are printing from you may well get some extra dialog boxes. As you probably know there are no standard printer dialog as many programs build their own. In usual Apple fashion just choose which options you want from those displayed.

Printing is slower than a LaserWriter but the actual speed really depends on what you are printing. This is also true of the

StyleWriter. The reason being the different ways that data can be sent to the printer. Both the DeskWriter and StyleWriter send bit map images to the printer while the LaserWriter sends Postscript instructions. The most dramatic difference is in printing TIFF scans. These may take anything up to 10 minutes or more on a laser writer as each dot has to be described in the bulky Postscript language. Using the DeskWriter each dot is sent as one bit of a simple 8 bit number as part of an image dump. It takes no more time to print a scan than a sheet of text. However a full page of text may take longer than on a laser writer as the text must be converted into its 300 dot bitmap image and each strip of eight dots sent down as separate numbers. The laser simply sends the string of characters it wishes to print direct and tells the laser the font, size and position to print it.

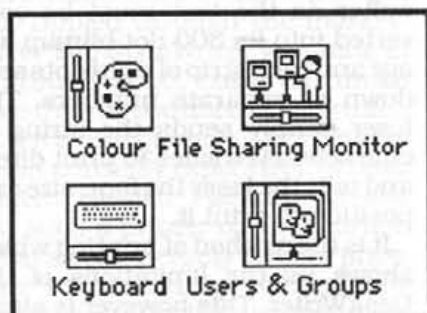
It is the method of printing which shows us the limitations of the DeskWriter. This however is also a limitation of any non-Postscript printer such as the StyleWriter, the ImageWriter or the Personal LaserWriter LS. Instead of the printer having the page described as a postscript set of instructions which will be used to recreate the page within the printer, the page is drawn within the computer and sent to the printer as a bit-mapped image.

Simple drawing works fine. Scans work fine. Text using either TrueType fonts or Adobe Type Manager with outline fonts works fine. Postscript or EPS drawing generated from programs like Adobe Illustrator or FreeHand does not work at all as there is no Postscript interpreter included in the printing chain. All we will get is a dump from the screen image included with the EPS file. If none exists, we will get nothing. The examples I have included show these limitations more clearly. I used both TrueType and Postscript outline fonts with the DeskWriter.

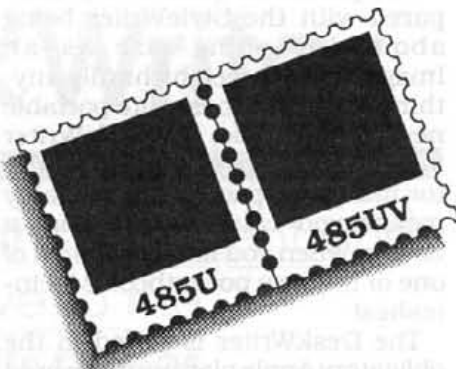
I had intended to make some timings which could compare all three printers but proved impossible to really be definitive about the speed. It just depended on too many factors. Text is quicker on the laser, while scans are quicker on the other two. PageMaker thumbnails took no time at all to prepare on the

This is an example of New York TrueType font. This font has only a TrueType screen bit map and no Postscript outline font. It is being displayed on screen and printer by TrueType technology.

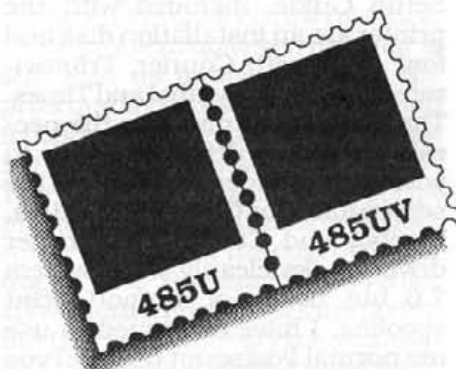
This is an example of Adobe Garamond Post script font. This font has a screen bit map and a Postscript outline font. It is being displayed on screen, DeskWriter and StyleWriter by Adobe Type Manager and on the LaserWriter by Postscript.



PICT file screen dump



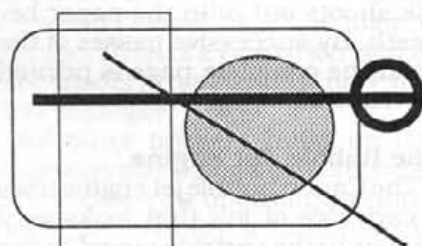
Exported FreeHand EPS file including TIFF image and Macintosh screen option



Generic EPS file with no screen image



TIFF scanned image



Rules, circles and lines drawn directly within PageMaker

### Printed with the Apple LaserWriter Plus

DeskWriter and StyleWriter but took a long time to print. On the laser it is the other way round. The laser scores in multiple page printing by taking an average of 8-15 seconds a page (depends on the laser printer you have), while the DeskWriter takes some 30-60 seconds and the StyleWriter 60-180 seconds depending on image content. To sum up, the DeskWriter is about two to three times slower than the LaserWriter while the StyleWriter is about six or more times slower.

#### The Examples

Being skeptical about using a non-Postscript printer before I used the HP DeskWriter, I was astounded at the results of the test page I have included. To try and cover all options I used both New York - TrueType and Garamond - Postscript fonts and Times for the captions which has its Postscript outline font resident in the LaserWriter. I drew some QuickDraw graphics directly on the page and included both a TIFF scan and an encapsulated Postscript (EPS) image from FreeHand. This FreeHand image was used in both the normal for-

mat which includes a TIFF screen image and the EPS content, and in a straight EPS file having no related screen image.

The reproduction process will certainly not show the fine details of the three samples so I will explain the differences more fully.

First of all the one thing that will be noticed is that both the DeskWriter and the StyleWriter failed to print the Generic EPS image. They managed to print the normal FreeHand EPS image but with a much reduced resolution, the laser print showing a crisp image full of detail.

The TIFF gray scan may look better from the laser in print, but on the originals was best from the StyleWriter which showed smoother tonal detail and less contours. Both the StyleWriter and the DeskWriter showed some lines over the image probably caused by the algorithms used to generate the half tone dot. This was worst on the DeskWriter.

The PICT screen dump was identical on all three printers. A PICT file prints in the same way as a TIFF line image and as expected these images also show no difference

across the three printers.

The direct drawing in PageMaker shown at the bottom right showed some quite interesting results. The most obvious is the fill in the circle. On both the laser and the DeskWriter this printed as a fine dot being marginally larger on the laser. On the StyleWriter this fill printed to a very coarse dot size. I have no explanation for this as the default settings were left within PageMaker.

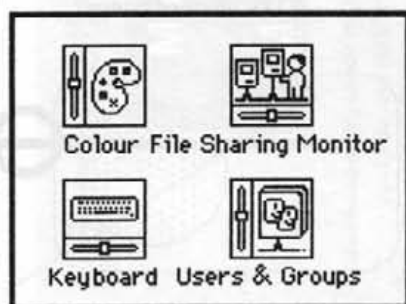
The lines were thinner on the StyleWriter and the diagonal line showed less jaggies than the other two. This is to be expected with its 400 dot resolution. The lines on the other two showed no differences from each other.

The type sci was very interesting to examine closely. Both the Times captions font and the Garamond outline font were quite different on all three prints. The laser came off best as it used the outline font on disk or within the printer giving a crisp and clean set. The DeskWriter using ATM to generate the fonts produced a visually better spacing than the TrueType on the StyleWriter. The TrueType images

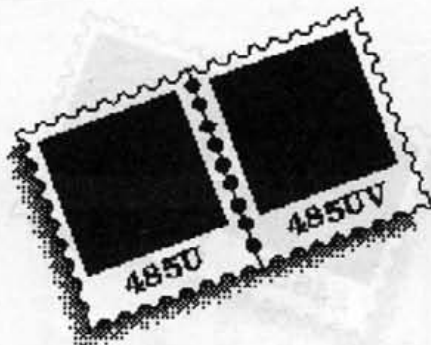


This is an example of New York TrueType font. This font has only a TrueType screen bit map and no Postscript outline font. It is being displayed on screen and printer by TrueType technology.

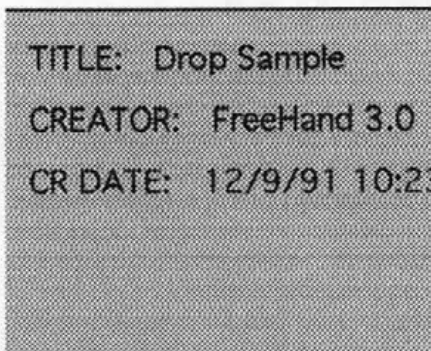
This is an example of Adobe Garamond Post script font. This font has a screen bit map and a Postscript outline font. It is being displayed on screen, DeskWriter and StyleWriter by Adobe Type Manager and on the LaserWriter by Postscript.



PICT file screen dump



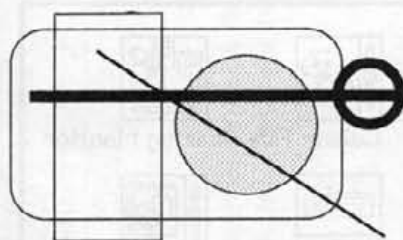
Exported FreeHand EPS file including TIFF image and Macintosh screen option



Generic EPS file with no screen image



TIFF scanned image



Rules, circles and lines drawn directly within PageMaker

Printed with the Hewlett Packard DeskWriter

had a more uniform lower case set but had a tendency to vary the vertical thickness. The TrueType printing had tendency to look as though the characters had been placed individually on the page rather than flowing as a complete word. If you look closely at the word 'Garamond' on the StyleWriter example you may just be able to detect the slight lean on the print mentioned earlier. This same lean showed on four examples printed at the same time.

The New York font was chosen as I had not got a New York outline font installed on my system and it printed identically on both the DeskWriter and the StyleWriter. This was to be expected as they both would be using TrueType to print. On the laser things got out of hand. I would have expected New York to also print using TrueType but for some reason PageMaker or perhaps System 7.0 just gave up looking for TrueType and sent a screen bit map font to the printer. The jaggies on the 10 point body text will hardly show on reproduction but the spacing and the large capital T will certainly show. There

is an extremely complicated route that System 7.0 takes deciding which kind of method to use. It should have landed up with TrueType but in this instance it did not.

#### Advantages of the DeskWriter

The main advantage over a LaserWriter is cost. Although the DeskWriter costs around £150 pounds or so more than the StyleWriter, it has no limitation on its useful life like the latter. It is built sturdily, despite its light weight, and feels confidently robust. If you need to make more than 6000 prints this might be very important to you. The DeskWriter at around 30 seconds for a print is considerably faster than the StyleWriter which zips along at two to three minutes a page!

The DeskWriter can be networked or direct connected to your computer, whereas the StyleWriter can only be direct connected. This will be of great importance where you wish to share the printer with others.

Both the DeskWriter and the StyleWriter have envelope printing

options. The DeskWriter seemed to work more smoothly in this mode and unlike the LaserWriter, which can create a real mess of a standard gummed envelope, printed these with consummate ease.

Print quality, apart from the lack of Postscript is actually better than most laser writers can manage. Blacks are true solid good blacks showing none of the streaking common to the LaserWriter. Fine detail is noticeably better than the LaserWriter showing none of the smudging of very fine detail common to those printers.

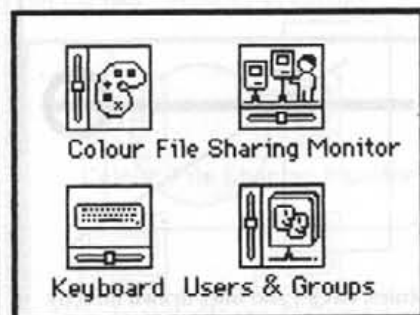
#### Disadvantages of the DeskWriter

The main disadvantage of the DeskWriter is that the ink is still wet as the paper emerges from the printer. HP have designed a clever delivery mechanism that delays the paper as it emerges giving the ink time to dry before the paper wafts down onto the previous print.

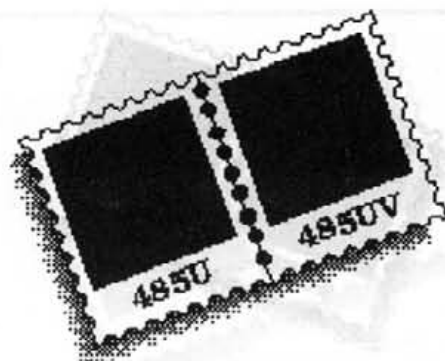
In practice I never got any smudging within the printer itself, only when I was impatient and remove the paper too soon. Text or fine line printing dries quite quickly and even when I was eager and re-

This is an example of New York TrueType font. This font has only a TrueType screen bit map and no Postscript outline font. It is being displayed on screen and printer by TrueType technology.

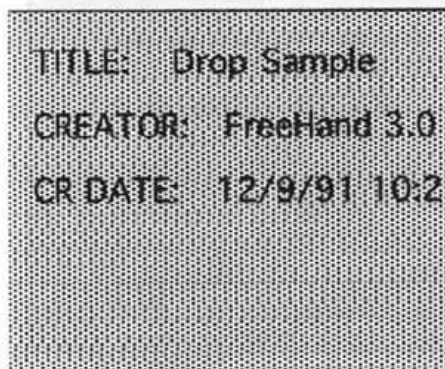
This is an example of Adobe Garamond Post script font. This font has a screen bit map and a Postscript outline font. It is being displayed on screen, DeskWriter and StyleWriter by Adobe Type Manager and on the LaserWriter by Postscript.



PICT file screen dump



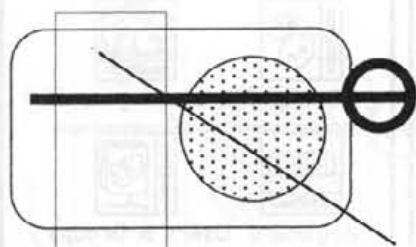
Exported FreeHand EPS file including TIFF image and Macintosh screen option



Generic EPS file with no screen image



TIFF scanned image



Rules, circles and lines drawn directly within PageMaker

### Printed with the Apple StyleWriter

moved the paper as it emerged I did not smudge the print if there were no large areas of black ink. Drawing was another matter. If large areas of black are present, do give the sheet time to dry before you remove it from the printer. The StyleWriter was marginally better in this respect.

I should mention here that while testing against the StyleWriter I achieved an interesting result with some text on the StyleWriter. I had printed a page of text using a serif face and set to 9 point size. Some of the lines showed a distinct tendency to lean over like an italic font at the beginning of the line. In both printers the head consists of a number of tiny holes in a line which print a strip in one pass. The electronics are not able to print each dot at the same time so the line of holes is set at an angle. As the head passes and the signal is sent to each hole in turn the correct hole comes into line as the head travels. A neat solution to the problem but obviously on the StyleWriter causes problems if the print head does not accelerate from stop to print speed quickly enough. I did not see this

fault show on the DeskWriter.

#### Conclusions

If you use Illustrator, FreeHand or other EPS generating programs extensively you must use a PostScript printer. At the moment your choice lies with the Personal LaserWriter NT or the LaserWriter IINT series or other Postscript printers. If you do not use EPS files then a non-Postscript printer and Adobe Type Manager is all you will need as has been shown with the examples accompanying the article. The cheapest of these printers is the StyleWriter but it is very slow, has a limited life of 6000 pages and is not too robust. It also shows a tendency to distort or italicise the type set. The DeskWriter is more expensive than the StyleWriter but is much faster in operation and has a life quoted at 60,000 pages this is about the same life as that quoted for the Personal LaserWriter series. The DeskWriter also showed a cleaner set on text. Both printers for all intents and purposes are as easy to interface as each other. Both do the same job. Taking all the various points into consideration and the fact that the DeskWriter

can be networked, I have no hesitation in recommending the HP DeskWriter as the printer with the most advantages.

#### Running costs

You will need to buy an interface cable to suit your computer and the occasional cartridge at £14.50. The running costs are much the same for all three printers when toner or ink is taken into account.

Ewen Wannop

info

Product : DeskWriter  
Manufacturer : Hewlett Packard  
Available from :

Bidmuthin Technologies  
Chase House  
The Chase, Pinner  
Middlesex HA5 5RX  
081-868 4400

Price : £495 RRP

Value : ★★★★★  
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# Computer Assisted Learning for Students of Industrial Design

## Part 2 The Project by David Durling

### Practical project

It was decided that a demonstration CAL package would be written and would be tested on students to assess its usefulness as a teaching aid. An area worthy of investigation is undergraduate professional practice studies. One module of this course is the writing of a comprehensive curriculum vitae, which is a non-trivial task: another area is report writing.

### Software

For developing CV Writer and Report Writer, HyperCard™ 1 was chosen running on Apple Macintosh. This was chosen for convenience, not necessarily as the best vehicle for this type of work.

To the uninitiated, HyperCard is something like a stack of electronic index cards. Screen frames often use a card metaphor, although it is possible to alter the graphic presentation of the screen layout to any style. Frames can hold text and graphics, and it is possible to form associative links between cards, either as a method of searching or as a method of navigation. Animation and sound can be added, the package need not be keyboard intensive (it can be mouse driven using on screen buttons and other iconic devices), and there is an underlying and powerful programming language, HyperTalk, which allows customising and also provides links with other programming languages and software applications.

HyperCard is difficult to classify in terms of mainstream software. On one level it will function as a flat file database, on another it can provide hypertext-like associative links, on yet another level it could be left to make a lively presentation including sound, animation and video. Although not strictly an authoring tool for CAL, HyperCard 1 had a number of features which might provide facilities for the planned delivery of structured information.

### Learning HyperCard

In order to get up to speed quickly with HyperCard, some key publications were studied. Among others, the two 'Handbooks' proved invaluable, one of these being a general introduction for beginners to HyperCard stack writing and HyperTalk programming (Goodman, 1988a), whilst the other was intended for developers with some experience (Goodman, 1988b). Additionally, a further reference book for developers was used (Daniels & Mara, 1988) to provide a deeper knowledge of the commercial aspects to be considered before taking a product to market. None of these manuals

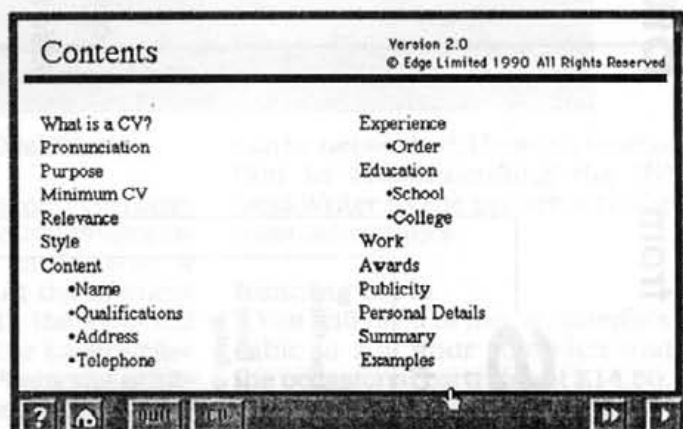
dealt with CAL as such, but were more concerned with the development of stacks and exploring the possibilities offered by the inbuilt programming language. Some advice was given on navigation, and the Goodman books were particularly helpful on interface design.

### CAL demonstration packages

Once work had begun on the development of CV Writer and Report Writer, a number of problems were encountered, mainly concerning navigation and the amount of information which could be presented on screen. Additionally there were many technical problems in getting the machine to behave in an intuitive way. The following is a very brief description of a few aspects of this stack.

### Startup

Each package begins with an animated sequence, and then goes into a contents frame with buttons that allow navigation to chapter headings. Alternatively, the 'forward' buttons can be used to sequentially proceed through the tutorial from the beginning, either by going 'fast forward' or going one frame at a time. Reverse navigation is also possible, but here frames are skipped so as to go back to the beginning of a tutorial section. In this way, the learner is supported in reiterating tutorial passages until satisfied.



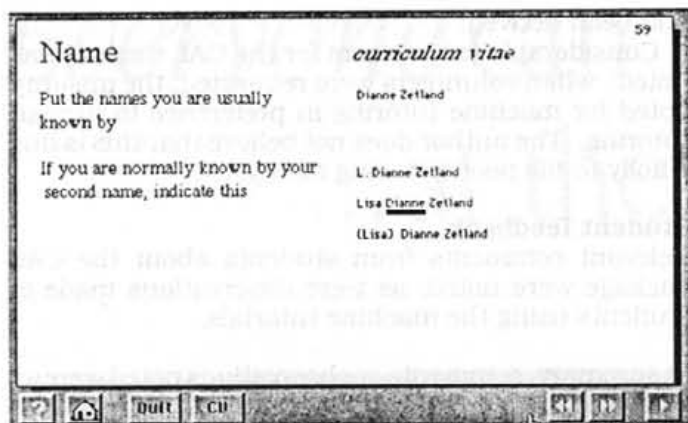
### Structure of information

A fundamental decision was to structure all the information in blocks similar to 'chapters' of a book. Transition between different types of frame is varied to give a feeling that the 'fast' buttons skip over chapters, while the normal forward button exposes one frame at a time. Some tutorial frames are also animated.

Each frame has a selection of button controls which allow for navigation between cards, as well as other functions such as online help, return to the home stack, quit the tutorial, or bring up an interactive CV-writing template.

A consistency of approach in the delivery of information has been aimed for, generally the tutorial title appears at the top of each card, the tutorial information on the left, and examples of both good and bad practice on the right hand side of the card. This is a typical frame from the tutorial:





### Navigation: frames

It was decided to utilise a card metaphor. Each card has four basic fields to which information is added. One early problem encountered with HyperCard 1 is that fields can only have one type and size of font. Such things as emboldening and underlining for example are not possible, so workarounds have been sought where such visual cues were required, this being done by alternative means such as the layering of one transparent field over another, or by utilising graphics locally painted onto the card. HyperCard 2 overcomes these limitations.

### Navigation: buttons

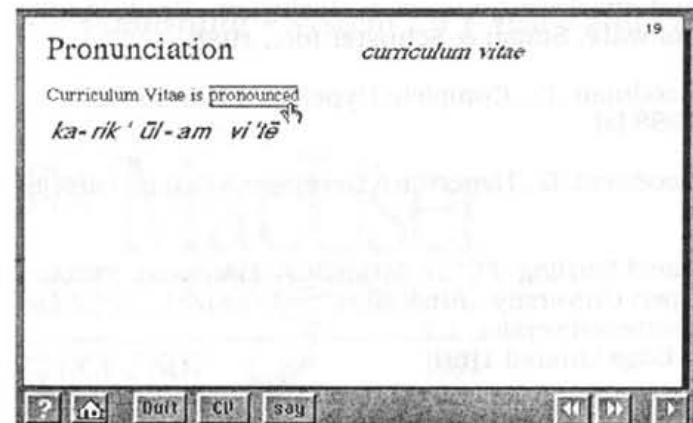
Control of flow between frames was the single biggest problem. An important aspect is that all buttons are available and active when they are visible: non active buttons disappear within certain frames. For example, the last card in the stack has no buttons for advancing forwards, as it is only being possible to go back.

### Graphic information

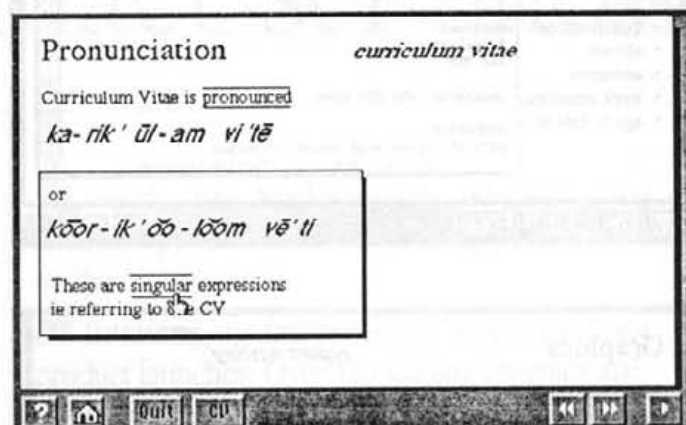
HyperCard has adequate painting tools. Scanned images were not used. The graphic content was kept to a minimum to avoid cluttering the screen display. It was necessary on occasion to enhance certain card fields with shadow effects to make them appear to be in front of the card. This is a way of getting around limitations in HyperCard 1.

### Depth of information

Some cards show a word or phrase highlighted by a horizontal bar above and below the word. This is another workaround to denote that word or phrase as



a button which, on clicking, exposes a field hitherto hidden which offers further explanation about the subject. For example, in the following sequence the word "pronounced" is clicked, exposing a field offering an alternative pronunciation.

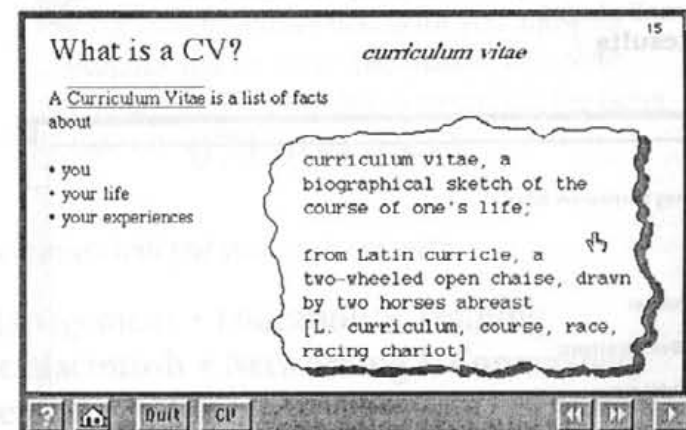


Information is thus nested several levels deep as required, and can be accessed simply by clicking around.

### Sound

Sound is another resource which can add to the depth of tutorial provided. The appropriate frames in the 'pronunciation' sequence are provided with an extra button which speaks the words as a monophonic sound sequence through the computer's built in speaker or through headphones.

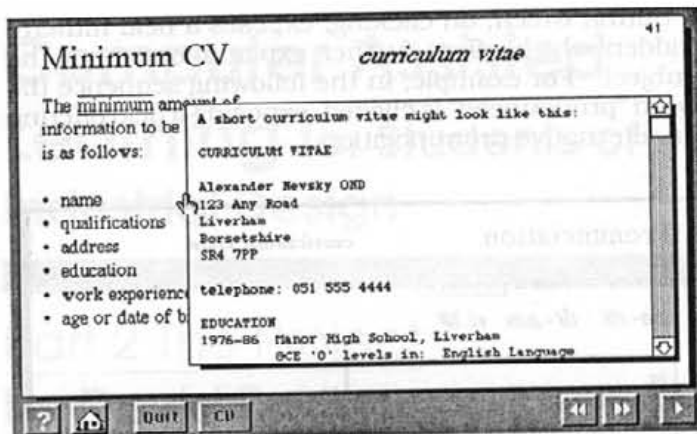
Different kinds of field are used according to the nature of the information. For example, a 'cutting' from a dictionary might look like this:



Information too big to fit on the screen is either shown in scrolling fields, or as an overlaid 'cutting' of a page overlaying the card, thus preserving the users perceived location within the domain. (See illustrations at the top of the next page.)

### Interactivity

Throughout the CV Writer stack, there is a button which calls up a hitherto hidden scrolling field containing a template for writing a CV. The user is able to directly enter his / her details into this field for later



had been derived.

Considerable enthusiasm for the CAL method was noted: when volunteers were requested, the majority opted for machine tutoring in preference to human tutoring. The author does not believe that this is due wholly to his poor lecturing ability.

### Student feedback

Relevant comments from students about the CAL package were noted, as were observations made of students using the machine tutorials.

In summary, comments or observations noted were as follows:

- Generally, the CAL method was well received. Students were happy to use the package and keen to discuss it.
- Navigation around the domain seemed to be acceptable, although some students had a little difficulty at times.
- It was irritating to many students that so many mouse clicks had to be made when exposing several lines of text on the same card. Some animation not requiring user intervention is probably required here.
- The time given over to basic instruction in the use of the package was insufficient for many students to absorb some of the finer points. The implementation of a tutorial on the use of the package would probably overcome this limitation, and would of course be essential if the package were to be used for distance learning.
- Users seemed to find the package fairly intuitive to use.
- Assessment of student output against a checklist of principal points in the tutorial showed that these basic points had generally been absorbed and used. Overall, there seemed to be consistency in the way the information had been used.

### Future work

Further work will be carried out on these packages to improve them. They will benefit from some of the extra features now available in HyperCard 2.

It is likely that the investigation will now concentrate on the design and development of a more substantial CAL package related directly to the core design activity, and based on findings from the work reported here.

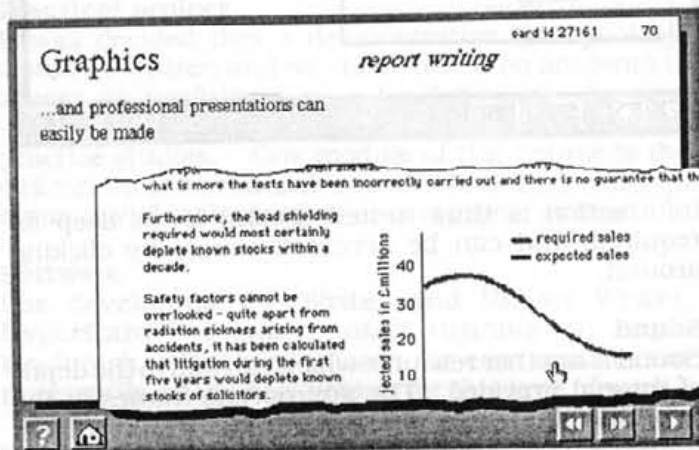
### Main references

Daniels, J. & Mara, M.J., Applied HyperCard, Developing and marketing superior stackware, Brady Utility Software, Simon & Schuster Inc., 1988

Goodman, D., Complete HyperCard Handbook, 1988 [a]

Goodman, D., HyperCard Developer's Guide, 1988 [b]

David Durling FCSD MDesRCA BA(Hons) FRSA  
Open University June 1991  
shortened version 1.1  
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transferring to a word processor. It is therefore possible for a user to dip into the tutorial at a desired point, learn about structuring that part of the CV, and then directly implement the user's details into their personal template, thereby building up their CV in small stages.

### Results


### Method


Students in various year groups were introduced to the concept of machine tutoring. It was possible with some student groups to split the group, one half undertaking the machine tutorial while the other half group was given a conventional seminar using the same base material from which the machine tutorial





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# FileMaker Pro

## A review by Mel Male

I continue to be amazed by how few database applications are installed and in use on Macintosh computers whether in homes or in corporate offices. Even a majority of the experienced Macintosh users I know tend to maintain their records with a word processor, a spread sheet, or HyperCard rather than use a real database. When I ask why they are not taking advantage of a database program the answer I usually received is "I don't have the time to learn how to use one—and besides, my word processor or spread sheet lets me do any thing I need to do." Too bad! I believe that database applications are the most under-utilized of all of the common Macintosh applications. The fact of the matter is that databases, like FileMaker Pro, are really very easy to learn and use, and the features inherent in a true database program like this can greatly add to your productivity. A very good customised database application can be created in no more time than is required to create a spreadsheet or word processor file.—10 minutes, maybe less, using templates of the type supplied with FileMaker Pro. A solid database program like FileMaker Pro should be a standard installation on every home and business Macintosh along with the ever present word processor and spread sheet.

Database programs should more properly be referred to as database application development environments since the user actually is developing an application (but not a stand-alone) every bit as much as a user of HyperCard, C or Pascal is. Data base development environments are divided into two broad categories, relational and flat-file. The major difference between relational and flat-file databases is

that relational databases store data in a single location (file/field) and automatically update all references to that information with dynamic, bidirectional links. Flat-files are unidirectional and involve no more than the automated copying of data from one document to another, which results in data redundancy, as well as the need to manually re-enter data in the non-linked direction.

Although not as sophisticated as their relational relatives, flat-file databases are very appropriate for many jobs and are relatively inexpensive. They should be the application of choice whenever the major requirement is for the user/developer to quickly and easily create simple databases that non-programmers can run and maintain. Even the most powerful flat-file data bases do not match the complexity inherent in relational databases. As a class flat file database applications are much cheaper, easier to use, getting increasingly powerful. FileMaker Pro, a major upgrade of Claris' FileMaker II, one of the most popular flat-file database programs for the Macintosh, is an example of the power to be found in flat-file databases.

FileMaker II's popularity is due as much to its ease of use as to the fact that it is a Claris product. I have been a FileMaker II user and fan for quite some time and one of the features I most like about it is how I can quickly create a new database and obtain very outstanding looking printed reports from it. The capability for a user to easily generate the variety and quality of printed outputs he needs is a major deficiency in many database programs. HyperCard (not a database) version I users can

sympathise with this problem.

The thing I most disliked about FileMaker, prior to the "Pro" update, was the clumsy user interface provided for its scripts, all the scripts had to be listed in a single pull down Scripts menu without enable/disable control. Menus are great user interface devices when properly designed — the various items in a menu should be enabled or disabled at each point in an application so that the user can only select an item that is appropriate at that time. FileMaker Pro overcomes this weakness of FileMaker II by adding the capability for buttons that can initiate scripts. This allows the user/ developer to place buttons for the functions appropriate to a particular layout directly on the layout and the user can immediately see the options that are available. If you wish, you can even create a layout with only buttons to serve as a finder type "Menu" a la HyperCard.

Unfortunately the scripts listed in FileMaker Pro's pull-down Scripts menu still can not be enabled/disabled by the user/developer.

I did not attempt to count the new features in FileMaker Pro but Claris claims that over 100 new features beyond those offered in FileMaker II have been added. Most apparent of these additions, after the ability to create buttons, is the abundant assortment of new graphics tools to give the user/developer the power of a drawing program when creating layouts. Still not included however is a built-in ability to produce graphs of data stored in the data base, a macro recorder, nor a real programming language.

As should be expected, FileMaker II files can be converted by FileMaker Pro, but caution is required. Because of a minor bug present in the way the older FileMaker II indexes records, files created by it could possibly be corrupted in a way that File Maker Pro is much more sensitive to than is FileMaker II. You risk losing some data unless you are careful and follow Claris' instructions for conversion. Once the conversion process is complete it is permanent, and you will no longer be able to open the converted file with FileMaker II.

Creating a new file in FileMaker Pro really is a breeze. You begin by defining fields to hold the information you want in your

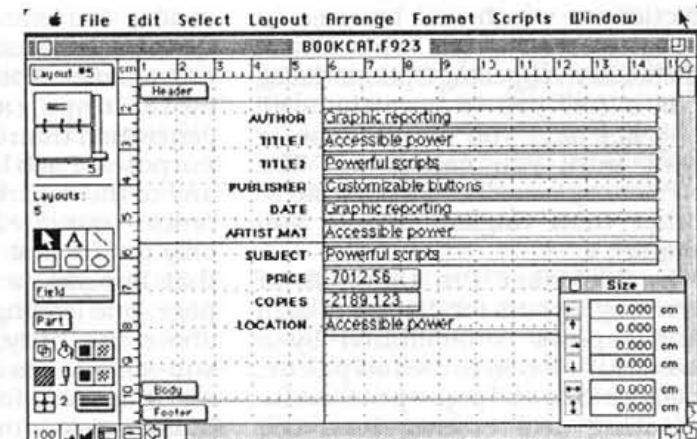


database, quite a simple task using the Define Fields dialog box. When you finish defining fields and click Done in the dialog box, FileMaker Pro creates your first layout automatically. At that point you are ready to start inputting data.

FileMaker Pro supports seven field types—Text, Number, Date, Time, Picture, Calculation, and Summary. The Define Fields dialog box, simplifies the definition process. Calculation fields—referred to as variables in some database applications—are easily defined by using the Calculation dialog box. There are 67 functions available in FileMaker Pro for use in calculation fields. I won't try to list them all here but it worth noting that in the financial area FV (Future Value), PV (Principle Value), NVP (Net Present Value), and PMT (Payment—which calculates the payment required to meet the requirements of the term, interest, interest rate, and principal) are provided. Among the text manipulation functions there is a "Trim" function that strips all leading and trailing spaces from a text string which can be very useful when converting imported files from other programs. Composing a formula consisting of database fields, symbols, numbers, operators, and functions is usually just a point and click operation.

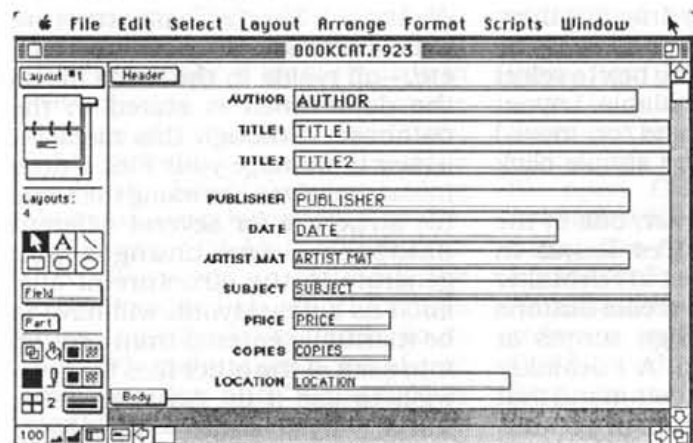
date, or time as a result. To make life even easier, FileMaker Pro has a number of built-in summary formulas select able from a pop-up menu—Total, Average, Weighted by, Count, Running Count, Minimum, Maximum, Standard Deviation, and Fraction of Total.

Since most of a database user's time will probably be spent entering data FileMaker Pro provides several features to help you streamline this usually boring task. As the user/developer you can select from these various entry streamlining features when you are first defining a field or you can wait until the development process is more mature to exercise your options. One of these nifty features provides you with the capability to create a list of choices for a field's entry and then display the list on a layout as either a pop-up menu, a pop-up list, radio buttons, or check boxes. Another option provides a very handy set of built-in defaults to provide auto-enter settings for your database.



Because File Maker Pro is not a relational database automatic updates do not take place should you later change the information in the look up file but a relookup command is available in via a pull-down menu to initiate an updating of information in a selected field of all the records in a selection. One somewhat unique option available in FileMaker Pro is if you would like to have a field contain several, separate values, you can define it as a repeating field that is replicated as many times as you specify. No matter how many times the field appears, it is still represented as just one object on the layout. This means that when you want to search for information you need to initiate just one find request instead of a number of them. In some ways repeating fields behave like subrecords and in other ways they do not. I have found them to be a very useful option.

During the process of defining data fields, validation criteria can be included to provide a check on the accuracy of data entered. A user will receive an alert if he/she tries to leave a record that contains a field with an entry that doesn't match your specified requirements. As an additional aid in assuring the accuracy of data entries, you can select Check Spelling from the Edit menu to spell check your records, or if you wish, your layout as well, with the "almost 100,000 word" FileMaker Pro dictionary. This dictionary can also be used with other Claris products which means that you can throw away your MacDraw, MacProject, and MacWrite dictionaries and use only the one supplied with FileMaker Pro. You can also create your own supplement, known as the User



When you click OK FileMaker Pro immediately checks the formula for syntax errors and makes sure the result type is consistent with the formula definition. Summary fields are used to compute a value over a group of records using the information in one text, number, date, or time field—or as a calculation field yielding a number,

These built-ins include record creation date and/or time, modification date and/or time, or a serial number whose starting value and incremental value are also definable. You can also type in a default value of your own. Although it is not a relational database by any means, FileMaker Pro can look up information in another file based on criteria that you specify, and copy it into the current field of a record you are adding or editing. For instance you can have FileMaker Pro look up a person's employee number and enter it into a designated field as you enter his or her name into the record.

dictionary which will be used in conjunction with the main dictionary. A Spelling Options dialog box allows you to have the spell checker alert you as you type or wait until you call it up. The dictionary is available in languages other than English should you require it.

In FileMaker Pro the task of creating layouts for display of data and reports is facilitated by a powerful but easy to use tool palette, dialog boxes and pop-up menus for creating and editing text and graphic objects. These can be used to create lines squares, rectangles, circles and ovals, specify line widths and fill shapes with pattern or colour. Or, if you wish, objects created in another Macintosh application such as MacDraw can be pasted in from the clipboard. Convenient to use object grouping, resizing, stacking order, and alignment controls are also a part of this package. As an aid to positioning objects rulers, gridlines, T-squares, and object size boxes are provided. Anyone involved in database development knows that a large amount of time can be spent in layout design. I have found the T-square extremely useful—I wish all database development environments had one.

While colour is supported for lines, fills, and text, there are only 81 different choices including 9 greys. The Macintosh toolbox's ColorPicker, which would give more, is not supported. I presume this is a performance trade-off by Claris, but in any event, I have found the choices provided to be more than adequate for my purposes.

Information entered into a FileMaker Pro database exists independently of any layout, so you can create additional layouts or change any existing layout independently of others, at any time, without affecting the data. You can duplicate and modify an existing layout, select one of five predefined layouts and tailor it for your purposes, or start from a blank layout and add all the objects you want.

FileMaker Pro automatically

divides the standard layout into three basic parts; a header, a body, and a footer. These are very much more important for report generation than for screen display purposes. Each layout can contain any of these parts in the following order—one title header that prints only on the first page, one header that appears at the top of each page, one leading grand summary above the body, any number of sub-summaries above the body (as many as one for each field) one body, any number of sub-summaries below the body (as many as one for each field), one trailing grand summary, one footer, and one title footer that prints on the first page of a document in place of the regular footer. Layout parts are

and/or list it in FileMaker Pro's Scripts Menu for rapid access. You can create as many scripts as your computer's memory will allow but the Scripts menu is limited to showing a maximum of 50. If you need to use more than this you are still in luck because you can run any script that you create from the Script definition dialog box.

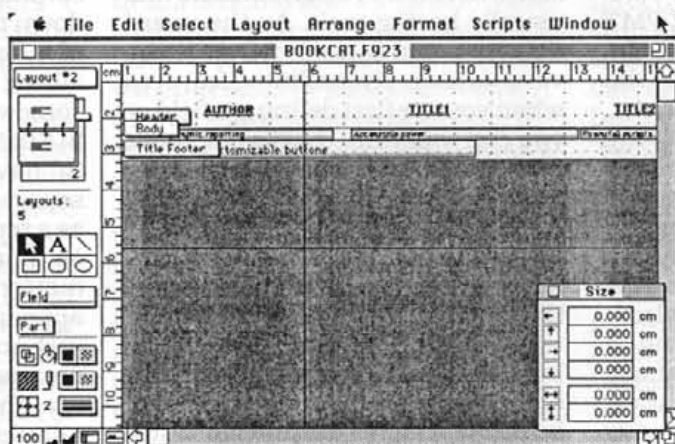
Seven attractive professionally designed database file templates come with the File Maker Pro package. The templates, each a ready made FileMaker Pro file—complete with fields defined and formatted, layouts designed, and scripts and buttons defined for common tasks—are a good way for anyone to get underway with FileMaker Pro. The layouts provided

are quite useful and, of course, they are all editable so you can modify them to suit your particular needs. These templates are modular so they can be used either separately or together—for example the invoice file will look up values from the customer file. These templates contain a fine assortment of colourful buttons that you can copy and paste into your own layouts.

Each database file created by FileMaker Pro is a single Macintosh

document. The database structure—field definitions, layouts, scripts, etc.—all reside in the same file as the data which is stored in the database. Although this makes it easier to manage your files it does mean that if you are using the same file structure for several different databases, any changes you generate in the structure of one, such as a new layout, will have to be manually entered from scratch into each of the other files that you wish to use it in. An alternative, used by some database development environments is to create one document for the structure and another for the data. This certainly is advantageous to the developer since he/she can work on database upgrades without having to shut down users while updating the database or to do a risky total data export and import operation.

When compared to relational database powerhouses like 4th



placed on layouts by dragging them from the Parts Tool and using the Parts Definition dialog box to select from the options available. Layout parts are resized and/or moved about on a layout by simple click and drag.

As mentioned earlier, one of the major added features found in FileMaker Pro but not in FileMaker II is the capability to create buttons on layouts and assign scripts or commands to them. A FileMaker Pro script is a single command that carries out a sequence of actions. For example you could use a script to—switch to another layout, find a group of records, sort those records, restore options in page setup, and then print or preview a report. Creating a FileMaker Pro script is accomplished by using the Script Definition dialog box which reduces this task to a simple point and click operation. Once a script is defined you can assign a name to it for easy recognition and link it to a button



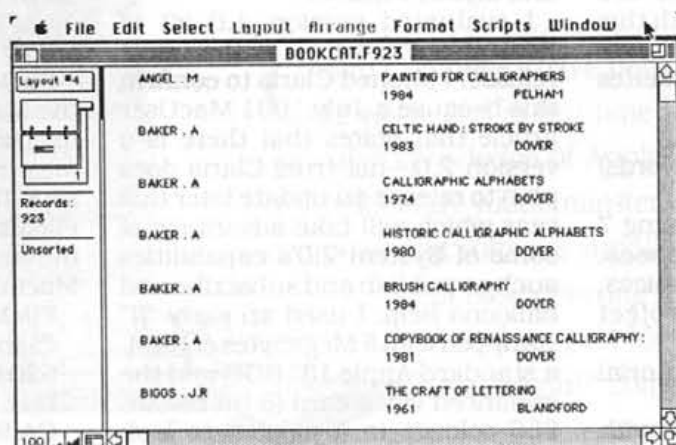
Dimension, Double Helix, Foxbase, and Omnis, FileMaker Pro won't set any functionality or speed records for searches and sorting but its performance has been very acceptable for my purposes. To find any specific group of records a request must be initiated by entering the criteria for the search into the appropriate field on a blank current layout form. In FileMaker Pro a search always examines all of the records of a particular file, not just the records in the current selection. Sorting a selected group of records is initiated with the Sort Records dialog box. All of the database fields are listed in a scrolling list for easy selection after which the user can click a radio button for either ascending or descending order. As has been noted previously in this article, the feature that most impressed me about FileMaker II is that it made it easy for me to create very good looking reports. Those of you who have developed data base applications know that you can spend a huge amount of time trying to create the report formats you want. It can require a great amount of programming skill and ingenuity to get exactly what you want, instead of what the software wants to give you. Even with all of 4th Dimension's programming power I still can't make it print records in two columns, with unused space eliminated, and have important fields in bold — something done easily with FileMaker Pro. Sliding objects is a very handy graphically-implemented FileMaker Pro feature that allows you to close up the unused space in a report formats when some fields are blank. To do this with code takes a lot of text concatenation and "if the field is blank" statements. Another feature that simplifies report design in FileMaker Pro is that any text or graphic object can be defined as "non-printing". As simple as this sounds it is not at all trivial. Not all database development environments have this feature—in which case you must build a second layout, just for printing, without the buttons and instructional text you need to include on the screen display.

In the business environment, it has become increasingly important to share information on a network. FileMaker Pro provides for networked multi-user capability and at the same time provides for data security. FileMaker Pro's networking scheme does not require a server, just open a "non exclusive" FileMaker Pro file on any station in a LocalTalk network and every other Macintosh can use it. Two or more people can use FileMaker Pro on a network at the same time but per the license agreement you must own the same number of copies of FileMaker Pro as the number of people who will be using it on the network. To make a file available to your co-workers you begin by turning off the "Exclusive"

or presses "Enter" to confirm an entry. Either the host or guests can import records. All additions, deletions, and modifications made to the file appear in each user's window and are saved on the disk from which the host opened the file.

To provide for security against uninvited guests while in the multiuser mode, you can assign passwords and set limits on who can open a file and what they can do with the information stored in it. With password control you can also define what kind of work a group can do with records, layouts, and scripts and which layouts and fields they can look at.

Connectivity and data exchange are the current buzz words in the corporate computer world. Toward this end FileMaker Pro is in step with the times and allows you to exchange information with many other programs. This feature should be a primary consideration in the selecting and design of any database for today's world. Although FileMaker Pro does not allow you to completely define your own import/export formats, as I think it should, the eight (8) built in file formats supported by FileMaker Pro will suffice for most



command on the File menu, removing the checkmark from that menu item. Next, there are several ways to make the non-exclusive FileMaker Pro file available to other users. One way is to just leave the file open. Other people on your network will be able to access it by using the "Network" button on FileMaker Pro's "Open" dialog box. Another method is to use file sharing software such as AppleShare or TOPS, so other users can open the file from their desktop. The first person to open a non-exclusive FileMaker Pro file is designated as the host. Each user can find and sort records, establish page setup, hide certain windows, switch between layouts, or use scripts without affecting the other persons work. But, only one person can edit a record or layout at a time. Others can view that record or layout, but cannot modify it until the current user finishes working on it and moves to another record or layout,

users. These are:

- Tab-Separated Text: Most common format in use for general import/export on the Macintosh
- Comma-Separated Text: Often used in the MS-DOS environment
- SYLK: Data is stored in rows and columns (often used by spreadsheet programs such as Microsoft Excel and WINGZ)
- DBF: This is dBase format. FileMaker Pro is dBase III compatible
- DIF: Data is stored in rows and columns (another format used by spreadsheet programs VisiCalc and AppleWorks)
- WKS: This is a worksheet file format used by Lotus 1-2-3
- BASIC: This is a variant of comma separated text developed to conform to the Microsoft BASIC standard.
- Merge file: Similar to the comma-separated text file format used in creating personalised form letters. The field names appear in the first

line in the file.

FileMakerPro automatically saves changes to your file during the course of your work minimising the chance of losing data that you enter. In spite of this, an inopportune power interruption, disk problem, or other factor could cause damage to one of your FileMaker Pro database files. Claris has included a Recover command in the File menu to help you salvage as much information as is possible from a damaged file. The end result of the recovery process is that a new file is created, and if the recovery process is successful, you will be able to open and use the new file as you would any other FileMaker Pro file.

The FileMaker Pro application program is 778K bytes in size completely filling one of the five 800K diskettes that come with this package. The associated software that come on the other four diskettes include:

- FileMaker Pro Help (725K)
- Main Dictionary (100,000 words) and a User Dictionary
- A templates folder containing 7 templates—Contacts, Expenses, Lead Tracking, Orders & Invoices, Products & Services, Project Tracking, and Buttons.
- A tutorial folder with five tutorial data base files
- A Claris Translators folder with translators for EPSF PFLT, MacPaint, PICT, and TIFF graphics.

ClarisXTNDSysm,ClarisHelpSystem

-AppleTalk to supplement network routines built into the Macintosh Plus

-FileMaker Pro HyperTour

The ample documentation that comes with FileMaker Pro is in the same pleasing style that Claris uses for its other products. The Getting Started Manual contains a very good table describing each of the files and folders in the diskettes, their function, and where best to locate them on your hard disk. The What's New volume is just what prior version users need to start with. The User's Guide is the detailed reference for this application and it is well organised, well written, clear and concise, and includes many highly annotated screenshots of menus, dialog boxes, and layout windows.

I evaluated version 1.0 v2 of FileMaker Pro which is the latest release. I phoned Claris to confirm this because a July 1991 MacUser article that states that there is a version 2.0—not true! Claris does plan to release an update later this year which will take advantage of some of System 7.0's capabilities such as publish and subscribe and balloons help. I used an early "II" equipped with 5 Megabytes of RAM, a standard Apple 13" RGB and the enhanced video card (8 bit colour, 256 colours in a palette) to look over FileMaker Pro for this review. The FileMaker Pro application was installed on and run from a Quantum internal 105 MB hard

disk. During the evaluation I alternately used both System 6.0.7 and System 7.0 as the operating system. System 7.0 caused me a few problems until I reread the instructions in the Getting Started Manual and relocated the Help and Help System files to the Claris folder in the System folder as recommended. I have a very large number of INITs and CDEVs installed but none appeared to cause trouble for FileMaker Pro. I have not yet had the opportunity to try FileMaker Pro in a networked multiuser environment.

Claris states that the equipment required to run FileMaker Pro is a Macintosh Plus, SE, II, or Portable computer with at least 1 MB of memory and a minimum of two 800K disk drives, or better, a hard disk. The system software must be 6.0 or later.

FileMaker Pro was reviewed in the March 1991 issue of MacUser magazine where it received a 4 1/2 mice rating. The MacUser review says that even with its problems, FileMaker Pro is still the best flat-file manager available for the Macintosh.

FileMaker Pro  
Claris Corporation  
5201 Patrick Henry Drive  
Box 58168 Santa Clara,  
CA 95052-8168 (800) 544-8554  
Price \$299

(First printed in Resources, the magazine of the San Diego User Group.)

## Timeslips III

Deepak Sareen Associates, best known for their popular PC project management software InstaPlan, have entered the Macintosh market with their appointment as exclusive UK supplier for the Timeslips product range by the Timeslips Corporation of Essex, MA.

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Timeslips 111 can handle up to 3,400 clients, 250 employees, 250 activity headings, and 128 projects per client. A 'client notes' window allows users to note important details relating to a job or client in notepad format.

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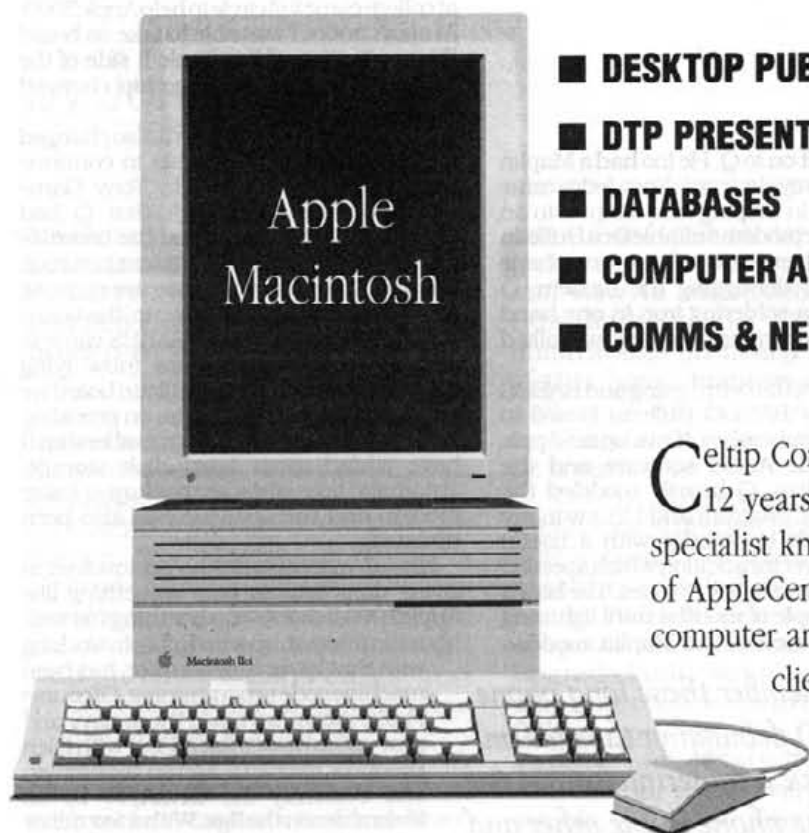
Timeslips 111 will run on a Macintosh Plus or above with System 6.0.2 or above and a hard drive. The single user version retails at £199, with a five-user network version at £499.

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# Committee Member Self Portrait

## Chairman

Ewen Wannop ABIP

My first Apple computer was a real challenge in just trying to get it to work. It was this that got me firmly hooked on to the Apple. The computer was an early Apple II which had been converted to European use, and was purchased by me in 1979. It came with, for then, an enormous 44k of memory, a lower case adaptor, a bunch of cassette tapes, a few manuals and not much else. The cost, a mere £1000! I had to go and buy a cassette recorder and a video monitor just to run the demo and games cassettes that came with the machine.

I was surprised to hear music and sounds coming from the computer as I ran one of these cassettes as I had no idea that the Apple even had a speaker. I had bought it for the advanced colour graphics that it offered. In trying to get the lower case adaptor working I was introduced to machine code at a very early stage. I could find no other way of getting the thing to work, and my attempts to access it taught me the rudiments of the 6502 machine language. And all this without an assembler!

From the start I had ideas about programming the thing and started as most of us did in those days with simple Basic programs. Just typing in the listings from magazines taught me all about that dreaded SYNTAX ERROR, and it also taught me how Basic programs were constructed.

Comms was a very new concept in those days and it intrigued me. I decided to buy one of the famous Maplin modem kits. I had done my fair share of electronic construction before I discovered computers and building the modem got me into communications. Not having a suitable communications program to use as I could not afford the commercial offerings such as ASCII Express, I started to write my own comms software.

It was around this time that I first came across BASUG and I finally joined the group at the first Apple User show which was held in Slough. Those of you who can remember that far back will remember the excitement and the heat of that very first commercial Apple show in the UK.

Having got the modem working by this time I was regularly looking around the various Bulletin Boards to find anything related to the Apple. One day I came across a message from Quentin Reidford (always known as Q to his friends) asking for Bulletin Board software for the Apple II. He was trying to get a board going to run on behalf of BASUG. I happened to have some software that had come from the States

and passed it on to Q. He too had a Maplin modem and my electronic knowledge came into its own in helping him adapt it to an auto-answer modem suitable for a Bulletin Board. I well remember those long phone calls with Q debugging the modem. Q would have a soldering iron in one hand and the phone in the other and we talked for hours!

Q finally got the board going and BABBS was the first BASUG Bulletin Board to serve the membership. It ran on an Apple II+ with Little ABBS software and the Maplin modem. Q heavily modified the original Basic program and I threw in my machine code knowledge with a useful Ampersand vector addition which speeded up the response to key presses. The board ran for a couple of months until lightning quickly disposed of the Maplin modem.

*I well remember those long phone calls with Q debugging the modem. Q would have a soldering iron in one hand and the phone in the other and we talked for hours!*

Various other modems subsequently took their place. Ultimately in Q's hands the computer became a Tandy Z80 based machine and BABBS, later to become TABBS, was firmly established.

It was my connection with Q that dragged me into the masochistic world of Apple2000 (née BASUG). He suggested I join the committee, and at the BASUG AGM of 1984 I was duly elected. Many years later I am still there, though now I have become the chairman. I do not see this as a lifetime position and would welcome a rest sometime, especially from the arduous job of bimonthly magazine production!

My personal interests in computing finally came into its own as far as my job was concerned. I am a lecturer in the Graphic Design department of an Art College, and I am also a professional photographer. At least that was my training, and for the first years of my working life teaching photography was my job.

It was purely coincidental that my interest was in Apple computers and that DTP developed round the Macintosh. When the DTP explosion hit graphics colleges the only computer that was considered was a Macintosh with a LaserWriter. Our college was no exception, and being the only one who knew about such things, I became the DTP expert for the department. Some

fifteen Macintoshes, two LaserWriters, a Linotron and a scanner later, I have all but forgotten how to press the shutter of a camera and solely deal with an expanding demand for DTP and computer graphics. The demand outstrips the hardware, but this is a complaint that spreads across the whole educational spectrum.

In the way of things the DTP experience at college came full circle to help Apple2000. At short notice I was able to take on board the production of the Apple II side of the magazine when the editorship changed hands a few years ago.

The BABBS bulletin board also changed hands when Q was unable to continue through pressure of work. Tony Came continued the good work that Q had started and Tony developed the board as BABBS. He changed the system to run on the MSDOS clone which we are running on today. Tony had to give up the board through ill health and so BABBS came to rest in my old darkroom (now lying dormant!) as the TABBS bulletin board we know today. There it soldiers on providing an excellent service to the membership. I have added more hard disk storage, automatic tape streamer backup, a faster modem and the software has also been updated.

Like all masochists who get involved in giving their time to help something like Apple2000, I do lots of other things as well. My main interest, sparked off from working with that lower case adaptor, has been machine code programming. Of course I have grown up since those days and now use an assembler. First with Glen Bredon's excellent Merlin assembler, and currently the ORCA/M 16 bit assembler on the IIGs. With a few minor exceptions I am still writing communications software. My best known program was probably Data Highway, now sold as Antelope through Apple2000. This was followed by Gazelle, and is about to be superseded by a new 16 bit desktop communications program for the IIGs. I am still at the Beta testing stage as I write this article, and the final working name has not been settled on, but it should be on sale later this year by a well known US software house.

Life as you see is never dull. For me it has been Apple computers 24 hours a day for some time now. I use the Macintosh at work and the Apple II at home, or rather several Apple II's as I have still got my original II+ as well as a //e and two IIGs machines (ROM 01 and ROM 03). There is also a Macintosh SE/30 to prepare the magazine and of course the MSDOS clone for TABBS. All but the old II+ are regularly in use, though I still sometimes use the II+ to check that software will run on the basic Apple II!

Ewen Wannop - The Apple II forever!

Likes:-	Dislikes:-
Apple II computers	MSDOS computers
Modems	Database programs
Real ale	Keg beer
Indian food	Chips with Vinegar
Thirties Jazz	Opera

Ewen Wannop August 91



# Book Review

by John Kishimoto

## **Macintosh Repair & Upgrade Secrets**

by Larry Pina

Hayden Books, 1990.

ISBN 0-672-48452-8

### **Introduction**

If you own a Mac 128K to SE, or a Lisa/MacXL, this book should be an essential part of your Macintosh library. The Macintosh Repair & Upgrade Secrets describes how to maintain, repair, and upgrade these 'classic' computers. Included with the book, is Larry Pina's "Test Pattern Generator" program, often available from Mac BBSs.

The Macintosh Repair & Upgrade Secrets has been written with techno-novices in mind. Even if you never intend to open the case, this easy to read book will provide that extra know-how, enabling you to confront dealers at their own level. Watch them cringe as, after that memory upgrade, you ask them if they adjusted the power supply and display. Better still, do it yourself and save a bundle. Memory upgrades of 'classic' Macs isn't all that difficult, regardless of what Apple might say.

### **Mac 128K to Mac Plus**

One of the problems of working on the 'classic' Mac, has been the case design, which makes opening it somewhat akin to trying to break into a bank vault. The first chapter describes in considerable detail, safety tips, tools required, and case popping techniques. With numerous illustrations, this chapter offers various options for those unable to find unusual tools, such as 8 inch T-15 "Torx" screwdrivers. I was surprised to discover that a ground flat-head screwdriver would be more than

adequate. Other tips include techniques to avoid case damage, and how to construct a custom, tube discharge tool. Photographs/illustrations on nearly every page of this book, inspires confidence, and with appropriate warnings, working on the Mac will no longer be a dark art.

Often mentioned, is the weakness inherent in the older Mac's power supply. This book describes why failures are likely to occur, which components are suspect, and how to trace and upgrade faulty supplies. A step by step approach, even to the extent of telling you how to replace the supply jacket sticky pads, is welcome for those overhauling the supply. A full list of recommended upgraded components is also included. I was surprised to discover, that my 1990 Mac Plus power supply, still used the suspect low power rectifiers. On the other hand, the notoriously weak flyback transformer, was now replaced by a Mac SE component. In addition to US supplies, where appropriate, international versions are also described.

One of the first recommendations which used to be given to a Mac owner, was the installation a fan of some kind. This book describes three different internal techniques which can be employed. This includes a piezoelectric fan, miniature axial exhaust, and a premounted axial. Fans are recommended even with a heavy duty power supply upgrade.

One curious upgrade is the speaker system. Sound quality has never been all that good, but can be improved with the installation of an external speaker. In addition to this technique, the inclusion of a

speaker grill on the case is suggested. I can confirm that the speaker quality is much better without the case, but the thought of drilling out a speaker grill doesn't appeal to me.

Video upgrades (other than commercial monitors) is unlikely to be a high priority for 'classic' Mac users. A full description of CRT replacement with an up to date version is described. In addition, a technique for installing an external IBM PC style monitor is also described. Descriptions of commercial, external monitors, is not covered.

With the introduction of System 7.0, memory considerations have become important to users intending to upgrade. This book describes how you can upgrade a Mac 128K to 512Ke(SCSI) standards. This upgrade (128K to 512K) is involved, requiring soldering of RAM chips on the motherboard. Descriptions are still clear and well illustrated but it is not for the faint hearted. Converting a 512K to 512Ke (128K ROMs) is much easier, requiring the replacement of the disk drive and ROM chips. Both official and unofficial modifications are described. This includes the unofficial addition of a SCSI interface to a 512K Mac. Upgrades of 512Ke to a Mac Plus is simply a matter of replacing the motherboard and rear case. This is likely to be a dealer installed conversion. An alternative to the board level 128K to 512K conversion, is one based on clip-on upgrades, which will allow memory up to 4Mb and can include options such as SCSI and 68881 co-processors. The description of this form of upgrade is sparse and will no doubt depend on the manufacturer. A full list of dealers, manufacturers and components are provided in the appendices. SIMM memory upgrades of the Plus and SE are also described, including the removal/installation of memory size resistors.

It is inevitable that you will experience some form of problem with your keyboard or mouse. Both topics are covered, and includes fault tracing and repair of these components. For those of you with worn mouse feet (those two pins) Teflon based stick-on feet are

available.

### Lisa/Mac XL

These computers have been out of production for years, but they are still on sale as reconditioned units, and are capable of performing the same duties as their more modern counterparts. This repair guide concentrates on the repair and maintenance of the later Lisa 2 and XL series of computers. Upgrades described for the Lisa, include the official MacWorks Plus conversion, hard drive and the installation of an 800K drive. It is interesting to note that, because the Lisa is card/slot based, SCSI, sound and RAM cards can be installed. The maximum RAM the Lisa can accommodate without modification is 2Mb. Upgrading to 4Mb is possible, but only through board level modifications, which is not covered in this book. Addresses of

Lisa/XL board and component manufacturers have been included in the appendices.

### Mac SE

SE specific information, not covered in earlier chapters, is described in a single section. This chapter serves as a supplement to the earlier descriptions of power supply and other Mac related modifications. Although the SE power supply is much more reliable than the Plus', an upgrade for maximum reliability has been included. Other SE specific upgrades include the addition of expansion cards and replacement of the internal hard disk.

### TPG

Supplied with the book is a disk containing a diagnostic program by Larry Pina. TPG is a Test Pattern Generator for the Mac. Two

versions are supplied, 128K-TPG for the Mac 128K, and the 512K-TPG for the rest. This program generates a variety of patterns to test for screen size, linearity, centring, balance and focus. TPG also includes the option for testing the audio circuit of the Macintosh.

### Conclusion

If you have a 'classic' Mac, this book is an essential guide to the repair and modification of your computer. Even if you are reluctant to carry out the modifications yourself, you will at least be well informed of the techniques and limitations of such changes.

Using this book as a guide, I have already 'popped' the case of my Mac, and tweaked the power supply to the recommended voltage.



### The Apple in Education Can schools afford to take a bite?

A pupil's point of view by David Tointon (aged 13)

My father is the headmaster of a medium size secondary school in Lincolnshire. Over the past 2 years he has purchased a Plus, 2 Classics, and an LC. But at the moment I can't see him buying any more.

No matter how much he likes the Macintosh (and he does like it) he has a service to provide. Our education department has just offered him 2 Archimedes (colour) for the price of one. Apple has tried to fight back with the £250 off an LC offer, but without the local education department's support we cannot hope to get offers like 2 for the price of 1.

Apple have done a great job of bringing prices down with the new low cost Macs, but there isn't much software to go with it. Software like Taste and Color MacCheese are only putting the keys in the ignition. To start the engine there needs to be a lot more of it. Let's hope the new integrated software lives up to and above expectations, because quite honestly, I found MS Works inadequate (on occasions) for classroom use.

Although main applications for

most computers cost money, simple astronomy programs for a 2nd year project had to be bought from shareware sources. All credit to shareware/PD programmers, they do a great job but this was a project involving the whole year group - in the end we didn't use the software. This is all a pity, the power and GUI of the Mac make it an excellent tool for presentations, as demonstrated in an activity day during which we had the morning to create the front page of a newspaper. Our team needed no glue and scissors. The children use the Mac a lot more than the Acorns and Amstrad PCWs. In the classrooms where there is a Mac, we (including me) have to race to get to the Mac first.




Schools may choose to nibble, bite, or chomp the Apple. Or they may decide to leave it alone completely.

Although our education department does not support the Mac, I find it amusing that some education advisers that were recently talking to my father asked him if they could copy **my games**. What a cheek! But the fact of the matter is - they all sit at home with Macs on their desks.

O.K. We've established that

Macs are difficult to squeeze in to a mainly Acorn dominated classroom. But what about in the office? No. I'm afraid not. My father has just got 3 new Compaqs and it was recommended that he networked them. But the people who sorted it out, would not support the Macintosh, so he could not network it with the PC's. The other problem, as in the classroom, is the software, but this time not the cost of money... the cost of time. My father is using Wingz on the Macintosh and Smartware (an integrated package also from Informix) on the PC. Now we thought, seeing the programs were made by the same source, there would be no problems with file transfer. Think again. After purchasing the MacLink Plus translators, combined efforts from us both still could not get a *perfect* transfer. There goes the chance of any Mac II's for the office!

In summary, congratulations to anybody who has got a Mac based environment for their school (I know some lucky schools do use Macs and only Macs) but unless the problems mentioned are solved the Mac is just going to be recognised as a computer with potential, until Acorn, IBM and Research Machines have clogged up the market to the extent that there will be no room for any other computer. Including the Mac. 



# Tesserae

## A review by E.E. Littlewood of a Mosaic Solitaire.

Tesserae arrives on a single disc with a single card descriptor and looks very sparse. There are, however, clear instructions and information about the game within itself including animated examples of legitimate moves.

Tesserae is a solitaire game for the Mac in the style of the classical solitaire game with pegs. You will remember that there were 44 pegs in the shape of a broad cross of 45 locations with the central peg absent. Moves were made by jumping a peg over another peg into an empty location removing the peg that had been jumped over. The object of the solitaire was to end up with a single peg in the central location. Once you knew how to solve this problem that, however, was it. Tesserae has greater complications plus a random element so that it can provide many hours of quiet pleasure (although there are accompanying sounds if you want them).

Tesserae are small tiles for making up a mosaic. There are 9 different mosaics or patterns of squares on which the tesserae are placed. The shapes are various and the number of locations can vary from the easiest, a simple rectangle of 48 locations to one of 112 locations. Shapes with more 'corners' are more complex.

The tesserae themselves can be of three different types defined either by their colour (red, yellow and blue) or by a symbol (circle, cross and square). The difference is that there can be more than one tessera, or tile, on a given location as long as they are of different types. The single tile, or primary, is as above; two tiles, or secondaries, take on the colour combination appropriate (orange, purple or

green) or for the black/white game the two relevant symbols are merged. The tertiary, with all three tile types is grey and/or with all three symbols merged. Like the classical game the tile(s) on one location jump over the tile(s) on an adjacent location to land on a further location within the mosaic. However it does not have to jump into an empty location.

It can't just jump anywhere however nor do the jumped-over tiles necessarily disappear from the board! A primary can jump over any primary (which is removed) and land on a space or any primary thereby creating a secondary if it is different; it can also land on its complementary secondary to make a tertiary. A primary can jump over a secondary providing the secondary contains the primary in which case the primary is subtracted from the secondary leaving the other primary. A primary can jump over a tertiary being subtracted from that tertiary to leave the complementary secondary. Secondaries can only jump over themselves or a tertiary. In the first instance the jumped-over secondary is removed and in the second case the complementary primary is left. The secondary must either land in a space, on the complementary primary (creating a tertiary) or on a secondary the same as itself. The last case just leaves the secondary there. A tertiary can only jump over another tertiary (which is removed) into either an empty space or onto a further tertiary - in both cases the tertiary remains.

It perhaps seems complicated from the description above but a couple of minutes playing will clarify the position and the help

menu illustrates all these moves, as I mentioned earlier. A menu item allows you to see which tiles can make legal moves and when you click on the tile(s) that you wish to move the game will highlight all those locations to which it can move. If you change your mind about which one to move, just click anywhere other than on a highlighted location. You can also undo moves, not just the immediate move but as far back as you wish to go.

There are three levels of difficulty - beginners, intermediate (the 'real' game) and advanced. The higher the level the more secondaries and tertiaries are placed on the mosaic at the start. For example for a mosaic with 72 locations the actual number of tiles used for the three levels of difficulty were 90, 108 and 111 respectively. Only a small change from intermediate to advanced but significant for all that. The diagram shows a game in play showing the information on the state of the game.

You can choose to play the mosaics individually or go through all nine in tournament play. There are 30 sets of high scores - one for each mosaic/difficulty level and three for the three levels of difficulty for the tournament (when the results of all nine mosaics are added together). If a tournament seems daunting there is a save game facility which can be used any time. Furthermore, if you are playing when you shouldn't be (at work?) there is a 'hide' item on the menu bar which almost instantly will switch to what looks like a screen-saver. But if the boss clicks your mouse to see what you were doing, you will be sunk!

It is not easy to get down to one tile in many cases but that is the beauty of solitaire games, the challenge. Any game that was too easy would soon lose its appeal. Even if you do get down to one tile there is still the challenge of repeating the exercise in fewer moves. Tesserae is a challenging game for the lover of solitaire/strategy games and will pass quite a few idle hours in the winter months.

Tesserae is available from MACLINE at £29 + VAT and is recommended.

Value for money: 4 out of 5

# Converting HyperCard version 2.1

When upgrading to System 7 it is necessary to also upgrade HyperCard from version 2.02 to 2.1. Now when you run version 2.1 you will quickly discover that it appears to be another of Apple's "cut down versions". This is not so and if you follow the instructions below then you can have a fully functional HyperCard 2.1 including level 5 scripting.

## Conversion Instructions

[1] Double click on the new "Home Stack" to launch HyperCard.

[2] Type from the keyboard the command key sequence CMD-4 or alternatively pull down the "GO" menu and select the last card. This should be the preferences card.

[3] Type CMD-M to open the message box

[4] Type the following into the message box

set userLevel to 5

and then press the return or enter key. The menus at the top of the screen will now expand and new items such as Style and Fonts should be evident.

[5] Go to the TOOLS menu and select the Button tool.

[6] Now look above the userlevel 2 arrow to the bottom left of the card. Above this will be a button. Double click in the area above the userlevel 2 to select it and open the information box. The button should be called "Userlevel Cover 1"

[7] Click the "OK" button or hit the return key to close the information box. Now hit the backspace or delete key. The other three userlevels (i.e. 3,4, and 5) should now be visible.

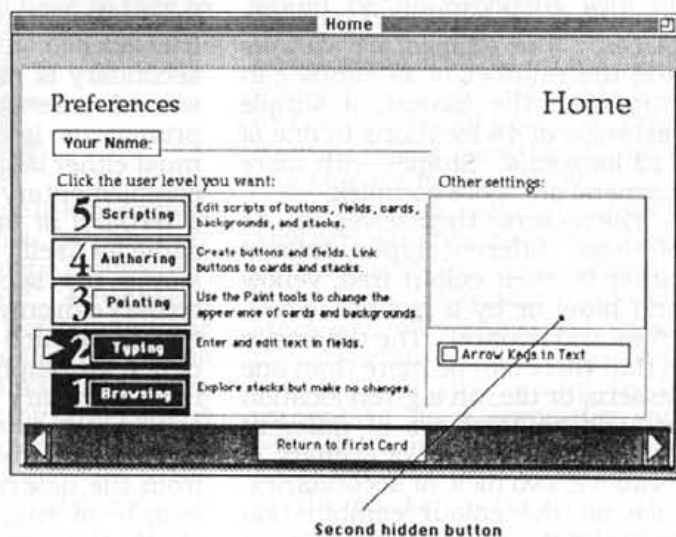
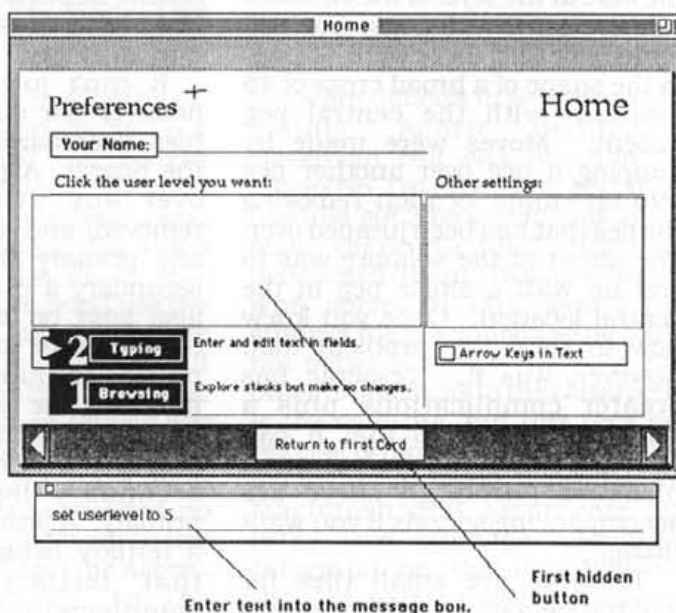
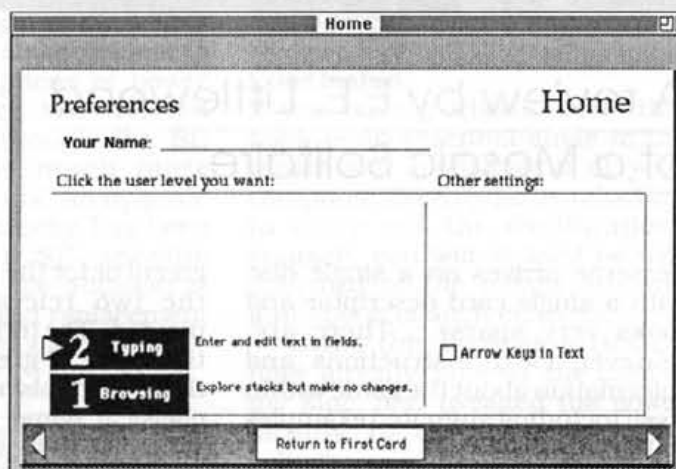
[8] To the right of the now visible userlevels there should be the outline of another hidden button. When you have found this double click on this to again open the information box. This button should be called "UserLevel cover 2".

[9] Click the "OK" button or hit the return key to close the information box. Now once again hit the backspace or delete key to remove the button. The Power User and Blind typing options will now be available but not visible as yet.

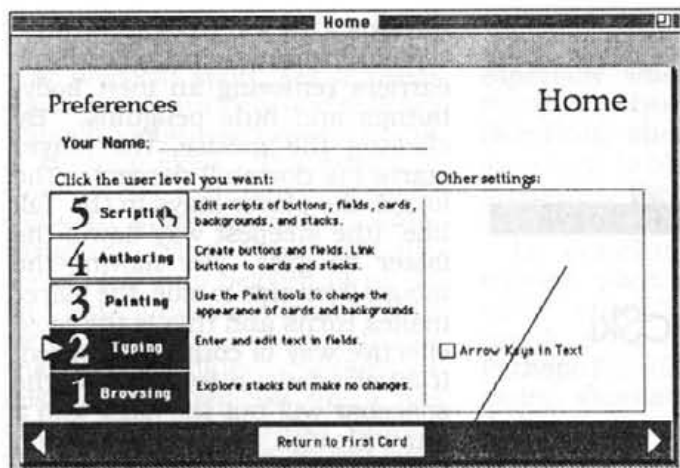
[10] Finally hit the TAB key or select the browse tool from the Tools pull down menu to return HyperCard to the normal user interaction mode.

[11] Congratulations, you now have a fully operational copy of HyperCard.

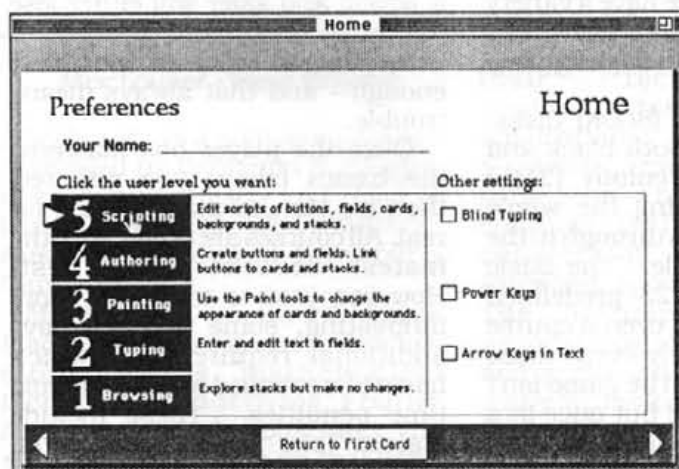
The Boffin







Additional facilities do not appear until the user level is changed to 5



## Apple IIgs survives the war in Kuwait

The following is an extract from a letter from an Apple2000 member who lives in Kuwait. We were not able to send any publications or disks to him during the war, so now he's eagerly catching up on all the back-issues.

"As you may recall I was in Kuwait for all of the war, in hiding mostly. My Apple II GS was in my office, which was totally trashed during the war. All my IBM-type machines and associated equipment were taken, but miraculously most of my IIGS survived. I found the CPU, hard disk, colour monitor and one Unidrive in different places, protected by rubbish and broken furniture — but when I hooked them up, with a new keyboard etc it all worked (save that yesterday my Transporter Card packed up). So, the Apple II can survive even war and pillage!"

Bruce Parry — Kuwait



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# MacSki

## A review of XOR Corporation's MacSki by Peter Kemp.

Do you remember the days when the machines in amusement arcades took pennies - and I mean REAL pennies? The days when "sophisticated" meant the game had a sign that was illuminated by electricity rather than paraffin lamps? If so, you may remember a driving game where a little model car was attached (via rack and pinion) to a steering wheel on the front of the case. The object of the game was to keep the model car on the road as a printed map sped under the model's wheels at an ever increasing speed.

Over the years this theme has grown more and more sophisticated. Dedicated Apple II game players will remember Nasir Gebelli's "Autobahn", for example - and the modern arcades have driving simulators that would probably give Nigel Mansell a hard time. But the basic plot remains the same - an unfolding panorama in which the player has to guide a car, avoid obstacles and beat the clock.

And now, in a clever attempt to get away from motor cars, we have MacSki from XOR corporation. As you might have guessed, instead of a car, the player controls a skier. Instead of road maps, there are

pistes (or "courses" as the manual insists on calling them - no room for old jokes there). And instead of other road traffic, we have a variety of obstacles, including snowmen, igloos, bunnies and penguins. (Yes, penguins.)

Supplied on two (800K) disks, the game runs on both black and white (1Mb) and colour (2Mb) machines, supporting the whole range from Mac Plus through to the LC and the portable. The basic game comes with 23 predefined courses and there's even a course editor in the unlikely event these lose their charms. The game isn't physically protected but once in a while, at startup, it will ask for a key word from the game manual. This seems a reasonable compromise and it *is* only once in a while - certainly not every time the game's launched. The manual itself is a model of what a manual should be - complete, concise and properly illustrated.

Instead of conventional nursery slopes, the first course (Algorithmia) is randomly generated each time and offers the player a chance to experience the variety of challenges and hazards lurking on other courses. Just like in real life there are plenty of

hazards - rocks, trees (oh, those trees!), snowmen, stretcher carriers removing an inert body, bumps and little penguins. By clicking the mouse, the player starts his downhill descent. The longer the player stays in the "fall line" (the steepest way down) the faster he goes. By moving the mouse from side to side, the player makes turns and this is the most effective way of controlling speed. If all else fails, a few taps on the spacebar will put the skier into a snowplough position which reduces speed pretty effectively. Getting the proper rhythm is vital - get it right and the skier makes a beautifully controlled descent. Get it wrong and skier will either lose too much speed (and grind to an unexpected halt) or not lose enough - and that always means trouble.

Once the player has mastered the basics (about two minutes) then it's time to start playing for real. All courses are timed, with the fastest descent being best. However, just to make life more interesting, some courses have additional requirements which have to be satisfied in order to avoid time penalties. These include slalom (ski round the flags), snowmen and penguins (which must be exploded or squashed as appropriate) and even stone arches (ski through the middle). Racing against the clock, each course has its own Hall of Fame. And when you begin to feel a bit blasé about the course defaults, you can always tinker with the weather, the type of snow, the time of day as well as the type of skis you're using. Even the simplest course becomes a challenge when skied at night, on wet snow in the middle of a blizzard!

Drawbacks? A couple. First,





although the game is good fun, it's **not** skiing. Recreational skiing is a very physical sport, yet it needs considerable subtlety and delicacy of touch which aren't always visible to the non-skier. The advanced skier learns a hundred and one ways to slow down and stop, ranging from the flashy, screeching stop beloved of racers on "Ski Sunday", through to a gentle turn and move uphill to lose energy. These different options are missing from MacSki which has only the snowplough for slowing down and stopping (apart from hitting something!). Skiers beware - you'll need to unlearn quite a few techniques before you feel at home with this game.

Second, on my (16 greyscale) LC at least, the game is too jerky - especially when there are more than a few obstacles on the screen. Scrolling speed is helped by switching to black and white, but even then the game didn't have quite the right feel.

In conclusion, although I enjoyed playing the game for a while, I didn't play it nearly as much as I thought I would. Perhaps I'm still expecting it to be a skiing simulator (which it most definitely is not). But it doesn't come up to scratch as an arcade game either - it's far too jerky. A pity, because I *wanted* to like it. Any game that has a St. Bernard come out and pour cognac down

the throat of a thrice-downed skier scores extra points in my book!

On the other hand, Macworld (US) voted this game into their Hall of Fame last year, so you'll have to pay your money and take your choice. Certainly, I don't think it's worth the UK price of around £42. The U.S. street price of \$38 (equivalent to £23) seems much more sensible and at that price I would give it a cautious thumbs up.

Product: MacSki  
Publisher: XOR Corporation  
Price: £49.99 (WYSIWYP)  
Available from: MGA  
41 Cinque Ports Street  
Rye  
East Sussex TN31 7AD

### MacFourier - Press Release

*MacFourier* is a software package developed by Benjamin K. Slinger, Reader in Chemistry and Head of the Chemistry Department, Australian National University, Canberra.

*MacFourier*, for Apple Macintosh™ computers, teaches students the mathematical techniques underlying Fourier Analysis, and demonstrates the effects of these tools on real data. The wide-ranging applications of Fourier Analysis have tended to make its instruction discipline-specific. By maintaining a modelling approach to the area of Fourier Analysis, *MacFourier* seeks to overcome the notational barrier that currently exists between disciplines, thereby giving students an environment for studying and experimenting with the tools that Fourier Analysis provides.

*MacFourier* is easy to use and fast to learn. Because of its generic approach, the program is appropriate for students in any discipline which uses Fourier Analysis. Techniques are shown at work on real data, and the graphical form of the results enables students to see the effects of their application. The program is flexible enough to be used in conjunction with textbooks from a range of subjects. No familiarity with the mathematics behind Fourier Analysis is assumed, but rather the program and accompanying manual explains

their techniques and demonstrates their many applications. *MacFourier* takes students from basic Fourier functions and transforms to complex techniques such as convolution, correlation, sampling, apodizing, and filtering. The accompanying manual includes a detailed tutorial section, and a glossary which introduces many of the elementary concepts of Fourier Analysis, and explains the notation.

*MacFourier* displays data on the screen in the following windows, all of which may be viewed at the same time: • Real Function, • Imaginary Function, • Real Transform, • Imaginary Transform, • Hartley Transform, • Power Spectrum.

*MacFourier* provides a set of operators which can be applied to and combined with a set of basic functions to produce compound functions consisting of both real and imaginary components.

The basic functions available are: • sinusoidal (and cosine) waves, • square waves, • sawtooth function, • exponential (and growth) function, • Gaussian function, • Lorentzian function, • sampling functions, • square pulse, • clock pulses, • white noise.

*MacFourier* allows the user to enter his or her own data using the keyboard or the mouse, or from standard Macintosh files. Operators include both unary and binary. Transforms and inverse transforms are also available.

The unary operators consist of: • cumulative sum, • square, •

absolute value, • logarithm to the base 2, • normalisation, • reflection, • rotation. The binary operators are: • arithmetic operations, • convolution & cross-correlation, • frequency modulation.

These operators act on pairs of functions, and can operate in complex mode whereby they act on both the function 'f' displayed in the real window, and function 'g' displayed in its complex partner. The user may also modify binary operators using the keyboard or the mouse. The data windows may be interchanged at this stage from Real to Imaginary, and from Function to Transform.

A variety of Fast Fourier transform and inverse transform conventions are offered to meet the need of individual disciplines and the results can be examined and modified. A number of dimensions of these relationships can be simultaneously viewed graphically. Several graphic display styles are possible including column graphs, points, and line segments.

Work can be saved to disk for subsequent retrieval and modification, or the results printed in either graphic or numerical form, for external use. A Help option is available for referral at any stage within the program.

*MacFourier* is available from Consumer Services, Oxford University Press, Distribution Services, Saxon Way, Corby, Northants NN18 9ES @ £175 + VAT.

# ClarisWorks

## Product Fact Sheet, introducing their new integrated software package, supplied by Claris UK

### Product Description:

ClarisWorks is the revolutionary new integrated software for Macintosh that enables users to manage their work, rather than their software.

ClarisWorks delivers power to the integrated software category with robust word processing, graphics, spreadsheets, charting, database management and communications "environments". The environments are interactive, providing a seamless integration of tools, so functions can be activated from a single page. This breakthrough in interface design provides more natural computing, so users can add text, graphics, calculations and charts to their documents at any point.

ClarisWorks users will also enjoy unique growth-path advantages, since the user interface and environment are so consistent with those of other Claris products. For instance, a ClarisWorks user whose need for spreadsheet power grows, will find that she/he already knows how to use Claris Resolve and can be instantly productive. So users will not have to learn new interfaces as they require more sophisticated tools — they painlessly upgrade to MacWrite Pro, MacDraw Pro, FileMaker Pro or Claris Resolve.

### Target Customers:

• **First-time Macintosh owners and managers** will find that ClarisWorks is the only general productivity tool they'll

need, delivering breakthrough power in every day word processing, spreadsheet, charting, database, graphics and communications functionality.

• **Small and Medium Business** users will protect their learning investment with the painless growth path from ClarisWorks to Claris dedicated applications. And without outstanding Claris customer support, combined with the product's on-line help and in-box training materials, users will be productive from the start.

• **Portable** users will benefit from the program's small size and speedy performance. And with its extensive file exchange capabilities, users can read and save files to most other popular software programs in multi-platform environments.

• **Education** users will find ClarisWorks to be an excellent learning and teaching tool, providing a more WYSIWYG environment for novice users to work in. And since ClarisWorks will import AppleWorks files, education users will be able to leverage their existing software investment.

• **Higher Education** students, faculty and administrators will use ClarisWorks as a one-stop productivity tool. Its seamless integration will enable students to discover a greater breadth of computer applications to enrich their work.

### Key Features and Benefits:

• WYSIWYG display allows

users to view and edit documents without switching modes.

• Global functions (such as split screens and find/replace) are available within all environments.

• On-line context-sensitive help system offers instant access to help within documents.

• Includes more than 20 XTND translators that allow users to open, insert, save and edit files from a wide range of applications across multiple platforms.

• Mail merge capabilities allow users to generate form letters, lists, reports and direct mail.

• Customisable zoom from 3% to 3200%.

• On-line spell checker and 660,000 synonym thesaurus.

• Locate and change text with find & change command.

• Arrange and view documents in multiple ways including new view, tile windows and stack windows.

• Use macros to automate repetitive tasks.

• Page headers and footers allow users to customise pages with titles and other information.

### Word Processing

• Page layout options include multiple columns, linked text frames and footnotes.

• Document productivity tools allow users to display font menus with fonts in their native format.

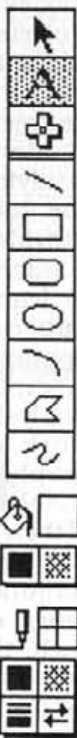
### Spreadsheet

• Includes a powerful set of 96 mathematical, statistical, financial and trigonometric spreadsheet functions.

• Users will also have the power to create more robust formulas when needed with nested complex functions.

• Multiple level sort capabilities allow users to quickly organise data for further operations.

• Manual and automatic recalculation capabilities





allow users to control the execution of calculations locally and globally.

- Create informative charts easily with a comprehensive set of charting types including pie, bar, 3D bar, stacked bar, line, scattered, and XY.

- With special paste functions users can transpose data and exclude formulas by pasting values only.

### Graphics

- A comprehensive set of powerful graphics and layout tools, based on the MacDraw II Tool Box, enable users to design graphics quickly and easily.

- With the flexibility to manipulate graphics and text, users can rotate objects and text, reshape objects, duplicate objects with tracked distance, flip objects vertically or horizontally and smooth or unsmooth polygons and freehand objects.

- Object alignment with a sample window allows users to align objects with precision in multiple directions.

- An array of colours, patterns and pens can be easily accessed from pop-up palettes and tear off floating menus.

### Database

- Borrowing from the intuitive FileMaker "book" metaphor, users can move quickly among records.

- Simple field definition function lets users get started quickly in setting up or modifying their database.

- Versatile search and multiple record sorting functions offer users extensive flexibility for data queries and manipulation.

- Full access to spreadsheet functions for comprehensive computations.

- Data handling flexibility allows users to add, change, or remove fields layouts and calculations at any time without data loss or re-entry.

- Comprehensive text formatting layout capabilities allow users to generate professional reports.

### Communications

- Users can extend the reach and use of ClarisWorks with the ability to connect to host environments.

- Automatic dialling enables effortless connection and saves time.

- An extensive portfolio of connection settings, terminal emulation and file transfer tools allow users to extend their communication capabilities.

### In-Package Support Materials:

- Users Guide
- Getting Started Guide with tutorial
- Communications Handbook
- Quick Reference Guide
- Context-sensitive, customisable HyperHelp system
- Possibilities booklet

### System Requirements and Compatibility:

- Macintosh Classic, LC, Plus, SE, II family or portable computers.

- Requires 2 floppy disk drives and 1 Mbyte RAM (use of Communications module requires hard disk and 2 MB).

- Hard disk recommended.
- System 6.0.5 or higher; System 7.0 compatible.

### Price and Availability:

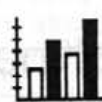
- Suggested retail in the UK is £195 (+ VAT).

- Current owners of Claris AppleWorks, AppleWorks GS, Microsoft Works, GreatWorks,



and RagTime can upgrade to ClarisWorks for £80 (+ VAT).

- ClarisWorks will ship in the UK during the fourth calendar quarter of 1991.



### Three offers from Claris

1 Get Claris Resolve — the New Macintosh Spreadsheet — Free.

Buy two different qualifying\* Claris Products, and Claris will send you Claris Resolve — FREE

2 50% Off Claris Resolve Spreadsheet.

Buy one qualifying\* Claris Product, and you can purchase Claris Resolve for 50% Off the suggested retail price of £275 (+ VAT).

3 Upgrade Any Macintosh Spreadsheet to Claris Resolve for Just £100 (+ VAT).

You need to return an original program disk from either Microsoft Excel, Lotus 1-2-3, Informix Wingz or Ashton-Tate's Full Impact, to qualify.

\*Qualifying Claris products are full retail or education units of FileMaker Pro, MacDraw Pro, MacDraw II, MacWrite II, MacProject II, Claris CAD, MacPaint and SmartForm Designer. (N.B. Non-qualifying products include Claris Graphics Translators, International Spelling Dictionaries, SmartForm Assistant and upgrades.)

These offers are open until 31st January 1992.

The above details have been extracted from documentation provided by Claris UK. If you wish to take advantage of these offers, contact Claris for full details and an application form. Telephone 0800 929005 (UK) or 1800 732732 (Eire).

N.B. The special offers cannot be claimed without an application form — so, you must contact Claris first.

# Using Foreign Languages on the Macintosh

by Josephine Bacon<sup>1</sup>

As a professional in the translation business, I am always extolling the virtues of the Apple Macintosh over You-Know-Who to our clients, because of the Mac's ability to transpose fonts from one program to another, even in the case of non-Latin alphabets. Of course, the truth is not quite as simple as all that. The danger of a font clash is likely to be higher with non-English fonts. A font clash is where two fonts have been assigned the same font number within Macintosh's Font Manager. In my translation agency, we had a translator who used to send us a Mac diskette with his work processed in Microsoft Word. Word automatically defaults to the New York font, unless told otherwise. I happen to think the New York font is the ugliest font ever designed for the Mac, so I had completely removed it from my system. Unfortunately, I appear to have a completely different font in my system with the same font number as New York, because when I brought this translator's file up on my screen it appeared in a Devanagari (Indian) font! However, all I had to do was click on Helvetica, and his work became instantly readable again.

Another phenomenon is that of a font which appears in your fonts menu but turns out to consist of a row of lines if you want to use it. This is because the font has been designed to be specific to a particular word-processing program and cannot be transposed because it only exists in the system specific to that program. It is a good way of write-protecting a font. Write-protected and proprietary word-processing programs are the bane of the translator's life, because our work has to be compatible with the

equipment used by as many of our clients and our translators as possible. At least 75% of my work requires some form of compatibility with my client's hardware and WP software.

## Special Fonts for European Languages

The Macintosh keyboard has a major advantage over other computer keyboards, as far as foreign language users are concerned, in that it contains as standard features all the signs needed for the major European languages — French, German, Italian, Spanish, Dutch, Portuguese, Swedish, Danish, Finnish and Norwegian. Furthermore, they are more easily accessible and usable than in MS-DOS. Just open your Key Caps under the Apple menu and try pressing the option key, and the option + shift keys. You will see what I mean. Linguists Software of Edmonds, Washington, USA<sup>2</sup> has a huge range of fonts at very reasonable prices (under \$120.00) which will place diacritical signs over or under other languages, such as Polish, Vietnamese and Turkish, even in different fonts. Russian fonts are available for the Macintosh from Linguists Software which address the problem of the multiple keyboards. There are three possible keyboards for Russian, the one customary in the Soviet Union, the one used hitherto by Russians in the United States (very similar to the Soviet one), and a transliterated keyboard, for those who can type in English but have never typed in Russian. The transliterated keyboard's Russian characters correspond as closely as possible to the arrangement on a standard QWERTY keyboard.

## Japanese and Chinese on the Mac

Although the principle of universality of fonts also applies to non-European languages, this is only true to a limited extent in the case of the ideogram-based languages, Chinese and Japanese. Both languages are based on ideograms, not alphabets, a little like hieroglyphics. This means that concepts, not letters, make up the words. A complete vocabulary contains 68,000 ideograms! You will need quite a lot of disc storage space to load a Chinese or Japanese program, without even printing it. That is why the programs available for the Mac will only produce screen fonts, unless you use a special printer which has a 40-meg hard disk attached and a card for your Mac to let it recognise the modification. This modification, which only exists for the Apple LaserWriter NTX, is called the NTX-J and costs about \$6,000! It is available from Pholiota Press Ltd.<sup>3</sup>

The problem is compounded by the fact that each Chinese character and Japanese kanji character takes up two bits, not one bit like characters in other alphabets. In addition to the Chinese-based alphabet which the Japanese call Kanji, they also have Kata-kana, a true alphabet used to supplement the ideogram characters and containing sounds that occur only in Japanese, as well as being used to reproduce non-Japanese sounds and spell out foreign names. Both Chinese and Japanese use the same ideogram characters for numbers. Modern Chinese uses three types of ideogram depending on where the language is written, all of which are variations of the same characters. The Taiwanese version is the most traditional, Hong Kong and Peking use slightly simplified versions of the characters.

The Macintosh, with its clear screen and sound, is the ideal environment for computer-based language teaching, especially with HyperCard software. Teaching programs need no special add-ons or expensive equipment. The best Japanese teaching program, MacSunrise, is a program written by Wolfgang Hadamitzky, a veteran teacher of Japanese whose books are very successful and highly recommended by language students. MacSunrise allows you to



hear the sounds of Japanese and practise writing.<sup>4</sup> Like most language-teaching programs for the Mac, it uses HyperCard to show individual ideograms, words and the Kata-kana alphabet. The words are also audible if Soundmaster has been installed.

#### DTP in Foreign Languages

All Roman alphabet languages can be produced in DTP, though the hyphenation should be disabled. Hyphenation has to be done manually, because the rules vary from language to language (as they do from American to British English, by the way). Russian can also be poured into an English-language DTP program quite successfully. Hebrew and Arabic (and any other language which reads from right to left) need special DTP programs, which are quite expensive. There is a company which specialises in Hebrew software of all types for Apple machines (not just for the Mac), the

Davka Corporation in Chicago.<sup>5</sup>

#### Other Types of Special Font

There are special fonts of almost every type, most of them available commercially, though a few are public domain. However, before rushing out and buying special fonts, always check to see that the characters you need are not already standard on the Mac's wonderful extended keyboard. Incidentally, whatever rubbish some salesman may tell (as he did me) the TrueType fonts can easily be mixed with the traditional fonts with no problem whatsoever.

As for being able to find and reproduce these fonts at a moment's notice, I use a wonderful utility called Pop-char. It shows you which font you are in, and all the characters in it, in the very top left- or right-hand corner of your screen and if you click on a character, it automatically reproduces it at the point in your document where the

cursor happens to be at that moment. However, as usual there is a snag, because my version of Pop-Char does not work on TrueType fonts.

This has been a brief overview of the font capabilities on the Mac as far as unusual fonts are concerned. New fonts are being designed every day, and soon almost anything you need will be available as a laser or

<sup>1</sup> Josephine Bacon has been a translator/interpreter for 25 years and runs her own translation company.

<sup>2</sup> Linguists' Software, Inc., P.O. Box 580 Edmonds, Washington 98020-0580. Tel: 0101-206 775-1130.

<sup>3</sup> Pholiota Press Ltd., 20-22 York Way, London N1 9AA, Tel: 071-837 8300. Prices vary according to the level required (beginners, intermediate, advanced) on application.

<sup>4</sup> Also available from Pholiota Press Ltd. Price on application.

<sup>5</sup> Davka Corporation, Chicago, U.S.A. Telephone 0101-312 944 4070. 🍏

## Preston's AppleCentre is in the Village

With fewer than 60 AppleCentres throughout the UK, you could be forgiven for thinking that they must all be in the bustling commercial centres of major towns and cities.

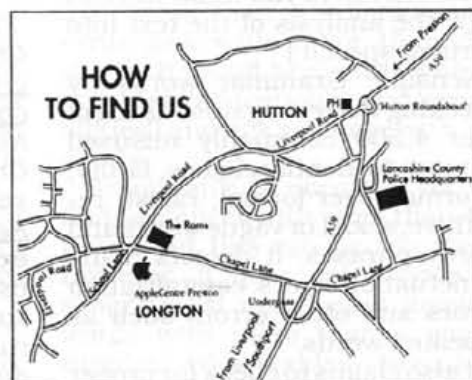
The truth is, most of them are – but Preston's AppleCentre is different. Situated in the picturesque country village of Longton, with private parking just a few feet from the front door, customers can visit without collecting a ticket. Once inside they will be impressed, not only by the superb corporate AppleCentre decor, but also by the friendly reception and caring attention from Apple dedicated staff.

- Five complete Apple systems on permanent display
- Eight Workstations in our air-conditioned Training Centre
- Twelve Apple dedicated sales and support staff
- Special 'Quiet Room' facility
- The new low cost colour Macintosh now available from stock!



AppleCentre<sup>SM</sup> Preston

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OUR INPUT WILL IMPROVE YOUR OUTPUT

# Grammatik

## Geoff Wood reviews another program designed to check your English grammar

Regular readers of the Apple 2000 journal may recall my reviews of Sensible Grammar in the October 1989 and October 1990 issues. After trying out Grammatik, I can say that if you are thinking of buying a program to improve your writing, you should go for Grammatik rather than Sensible Grammar.

Neither program is perfect but Grammatik works faster and incorporates a spelling checker. It works on a more sophisticated basis than Sensible Grammar so it finds fewer 'errors' that are not really mistakes.

The main difference is that Grammatik works by parsing each sentence to see if it conforms to the rules of standard English grammar. It assigns parts of speech to each word or group of words then checks against its Rule Dictionaries. (If you wish, you can view the analysis of the text into parts of speech.)

Sensible Grammar works by checking the text against its list of over 4,500 commonly misused phrases to identify clichés, faulty, informal, over formal, racist, repetitive, sexist or vague words and wordy phrases. It detects many punctuation errors, capitalization errors and other errors such as repeated words.

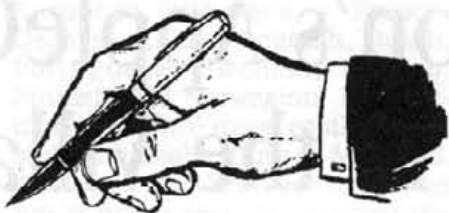
It also claims to check for proper agreement between noun and verb, article and noun, and verb and modifier but it does so on a less sophisticated basis than Grammatik so it is more prone to error.

Both programs can be operated either in an interactive mode (so that you can decide whether to amend each 'error') or in an automatic mode to mark the 'errors' with or without comments.

Grammatik comes with a Tour

file that describes the main features of the program and includes examples of various errors. After using the interactive mode to get the feel of the program, I used the automatic mode to mark each 'error' with the # character.

The marked Tour is printed below and it is followed by comments on the 'errors'. I also used Sensible Grammar to check the Tour file and I have underlined the words or items it marked as 'errors'. This makes it easy to compare the two programs.



Thank you for choosing Grammatik British Edition! The original Grammatik was developed in 1980 by Dr. Bruce Wampler. Now, three generations later, Grammatik is more powerful, versatile, and easier to use than ever. Reference Software's team #of experts, including computer scientists, linguists, educational consultants, technical writers and customer support personnel, are dedicated to bringing you the best proof-reading technology available.

Grammatik British Edition is much more than a grammar checker. It is a sentence analyst, style and usage guide, spelling checker, readability analyst and proof-reader, all in a single, easy-to-use electronic writing tool.

At the most basic level, Grammatik British Edition proof-reads your documents for doubled words, punctuation errors#, mis-

takes with #cApitals and #other such mechanical errors. Grammatik also checks your document for #a large number of style and word choice problems #all throughout the document, using its extensive rule dictionary of overworked, long-winded, and incorrect phrases.

#But Grammatik goes far beyond this simple pattern matching checking. You will find that #its a major improvement in document checking.

Grammatik's goal is #to boldly go where no writing analyser has gone before! #Your going to be surprised at how much better Grammatik is at finding errors in your documents.

#How does Grammatik sort all this out. Unlike simple style checkers of the past, Grammatik breaks down each sentence and assigns parts of speech to each word. It can then check for true grammar errors using artificial intelligence techniques#

Grammatik can find many other errors based on parts of speech analysis. #It find many verb errors, including agreement of subject and verb and proper usage of modals (e.g., should, would). #Plus incomplete sentences.

The following little story will show you more of Grammatik's capabilities:

The man #who you met at the party is an old friend of Bill's. He is not very popular around here because the man and his #dog, an Alsatian, frightens the children. Even though he has received many complaints, there is #not never any doubt he will keep the dog. #If I was to tell you that he was very clever, you probably wouldn't believe me. While the man #certain is clever, he is also stubborn.

The neighbours have decided to take him to court. #There house is an old country estate. The #reason they live in the country is because most urban areas are #to densely populated. They want the man to keep the dog under control, and a #lady #solicitor have requested his presence in court. It would be #more better if he would agree to fence in his dog without a battle. It turned out that they didn't have to take him to court. Someone stole the man's dog. He has asked for his dog back, and has promised #to really keep him fenced. Even



so, *#every one* has refused to tell him where the dog *#is* at.

As you explore *#each* innovations of *Grammatik British Edition*, we think you will find that it is the *very best* program of its type available. *Of course*, *Grammatik* can find many other errors. This tour has shown you just a small sample of *Grammatik's* capabilities. Now that you've seen some of what *Grammatik* can do, you're *#already* to try using it on your own documents. *#we* know that your writing will improve quickly as you use *Grammatik* *#on a regular basis*.



*Grammatik* found some important errors that were missed by *Sensible Grammar*. It found the incorrect use of *'its'* instead of *'it's'* but it properly ignored the correct use of *'its'* in earlier and later sentences. It spotted *'Your'* instead of *'You're'*. (*Sensible Grammar* provides a list of homophones giving details of all the instances of *'its'* and *'it's'* and *'your'* or *'you're'*, so you have to check every one of them to see if any are wrong.)

*Grammatik* suggested that the sentence starting with *'How'* should have a question mark at the end. It also spotted a missing full stop after *'intelligence techniques'*. It suggested that *'It find'* should be *'It finds'* and it spotted a sentence without a verb.

*Grammatik* found the split infinitives *'to boldly go'* and *'to really keep'*. It suggested *'whom'* instead of *'who'* and it suggested that the singular verb *'frightens'* should be plural. It found the double negative *'not never'* and it suggested *'If I were'* instead of *'If I was'*. It also thought that the adjective *'certain'* should be the adverb *'certainly'*.

It found the misuse of *'There'* instead of *'Their'* and the use of *'to'* instead of *'too'*. (*Sensible Grammar* itemised seventeen instances of *'to'* in its list of homophones and

it gave details of every instance of *'does'* and *'dose'*, *'hear'* and *'here'*, *'know'* and *'no'*, *'passed'* and *'past'*, *'seen'* and *'scene'*, *'than'* and *'then'*, and *'where'* and *'were'*. It can be quite tedious to check every one for mistakes.)

*Grammatik* thought that the adjective *'lady'* could be *'belittling'* or *'patronising'* and suggested *'woman'*. More important, it spotted that the singular noun *'solicitor'* should not be followed by the plural verb *'have'*. It suggested that the sentence ending with *'at'* should not end with a preposition.

It thought that *'each innovation'* should be *'each innovation'* and it suggested that *'already'* should be *'all ready'* or *'prepared'*.

*Sensible Grammar* did not find any of the above errors (other than the homophones and one of the split infinitives) so *Grammatik* was much better for these types of faults.

Both programs found the doubled word *'of of'* and the doubled comma (underlining does not show under commas so I marked them in bold to indicate that *Sensible Grammar* found them). Both also found the mixed capitals. They also suggested simplifying *'other such'* to *'other'*, *'a large number of'* to *'many'* and *'all throughout'* to *'throughout'*. They also spotted the incorrect comparative *'more better'*.

Both spotted the separate words *'every one'* instead of the compound word *'everyone'*. They also marked the sentence starting with *'we'* instead of *'We'*. Both programs suggested replacing the phrase *'on a regular basis'* with *'regularly'*.

*Grammatik* commented on starting a sentence the word *'But'*; *Sensible Grammar* simply suggested that there should be a comma after the word *'But'*.

*Grammatik* suggested omitting the word *'because'* after *'The reason is'*; *Sensible Grammar* suggested using *'is that'* or *'is caused by'* instead of *'is because'*.

*Sensible Grammar* also marked some words and phrases ignored by *Grammatik*.

It marked the word *'original'* and suggested *'first'*. It said that *'was developed'* was a weak passive voice verb and suggested rewriting with an active voice.

(*Grammatik* can be set to find passive verbs but the default *General Style* does not do so.) It marked *'Reference'* as an overly formal phrase and suggested *'see'*. It marked *'much more'* and suggested *'much'* or *'more'*. It suggested *'wrong'* instead of *'incorrect'*.

It also marked *'incomplete'* as an overly formal phrase and suggested *'undone'*, *'unfinished'* or *'lacking'*. It thought that *'Even though'* was a wordy phrase and it suggested *'Though'* or *'Although'*. It described *'very best'* as an *Incorrect Modifier*, said that *'adjectives describe nouns, adverbs describe verbs'* and it suggested *'best'*. It thought that *'Of course'* was a vague phrase and should be omitted.

I cannot agree with most of these suggestions.

*Sensible Grammar* marked *'are to'* as a wordy phrase and suggested *'shall'* or *'will'*. This suggestion is quite wrong in the context of the sentence.

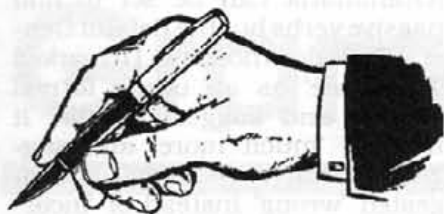
*Sensible Grammar* thought that the sentence ending with the word *'me'* had extraneous space after it. This seems to be a quirk of the program.

However, *Sensible Grammar* found an error that *Grammatik* missed; it found the two spaces in *'The following'*.

*Sensible Grammar* also provided a list of *'excessives'*, i.e., words with more than 4 syllables and sentences with more than 30 words. It found two words with 5 syllables (*'educational'* and *'capabilities'*) and one sentence with 31 words.

*Grammatik* is normally set to find sentences with more than 40 words but this can be adjusted. However, it does not provide a separate list nor does it itemise words with more than a given number of syllables. *Sensible Grammar* also checks for paragraphs with more than 8 sentences (or any number you specify) whereas *Grammatik* does not.

Of course, it might be unfair to test *Sensible Grammar* with a file perhaps specially designed to show off the features of *Grammatik* so I tried both programs on the test file provided with *Sensible Grammar*. Here it is with the markings as before.



Dear Bill,

I just bought Sensible Grammar for the Macintosh. It's loaded with features. It's an interactive proof-reading program, that checks for many types of errors. When you check a document, it flags all the different types of errors in one pass. It improves you writing and helps remove embarrassing mistakes. #We recognizes our mistakes, but I thought software couldn't identify common errors. This program is more smarter than I thought. #And it's easy to use.

I'll be using Sensible Grammar on all my important letters. My writing style will change from using Sensible Grammar regularly. The letters I've checked are more interesting and precise.

My children have use it for their homework. They get better grades now. It's not going to collect dust on my book case.

Sensible Grammar is also available in #ProDOS for Apple II computers. Registered owners of one version can buy the other version from Sensible Software for half price.

#sensible Software has also released a #HyperCard stack called Bookends. Bookends #is a specialized database for keeping track of books, journals and other sources. It allows you to enter the information into a standard "card" format. Then you can choose the specific references you want and output them in fully customized bibliographic and footnote formats. You can import data downloaded from Dialog, Medline, BRS and Knowledge Finder. Bookends can create #a alphabetical listing of authors or keywords. It runs on Macintosh Plus, SE or II computers with 1 megabyte of memory. File size is limited only by the amount of disk space. It retails for \$99.95. Sensible Software also has Apple II and IBM PC versions of Bookends available.

As a doctor, you're sure to find Bookends helpful in your research. Just between you and me, it's made my library easier to manage. It's

no longer a time-consuming task to find a source and create a bibliography. Cordially,



This time, Grammatik failed to find some errors that Sensible Grammar pointed out. It ignored the comma after 'proof-reading program'; Sensible Grammar said 'Do not use a comma to set off restrictive modifiers'.

Grammatik also overlooked the phrase 'you writing'; Sensible Grammar said 'Incorrect Pronoun Case: Inconsistent Use of Pronouns'. Grammatik recognised that the noun 'We' should take a singular form of the verb 'recognises' but it did not spot the faulty phrase 'more smarter'; Sensible Grammar suggested 'much smarter'.

Grammatik commented on the use of 'And' to start a sentence; Sensible Grammar did not.

Grammatik failed to spot the Incorrect Verb Tense 'have use'; Sensible Grammar suggested 'have used'. It also overlooked 'book case'; Sensible Grammar proposed 'bookcase'.

Grammatik commented on the mixed upper and lower case of 'ProDOS' and 'HyperCard' but Sensible Grammar accepted these words. Both programs noted the need for a capital letter in the sentence starting with 'sensible'. Both also suggested the use of 'an' rather than 'a' before 'alphabetical'.

Grammatik thought that the noun 'Bookends' was plural and should not be followed by 'is'; Sensible Grammar made no comment.

Sensible Grammar suggested omitting the wordy phrase 'the amount of' and it also said that the comma in '\$99.95' should be followed by three digits. (Of course, the comma should be a decimal point.) Grammatik failed to spot this important error.

Sensible Grammar also noted two paragraphs with 8 or more sentences and it noted the word 'alphabetical'

with more than 3 syllables.

So it seems that both programs have their strong and weak points. However, both can be modified to suit your requirements. The main point is that Grammatik is not irritating to use because most of the 'errors' it identifies are genuine errors.

Grammatik operates in a series of six steps. First, if the spell checker is switched on, it checks the spelling of each word in the document. You may prefer to use your word processing program's spell checker first. (Words must be spelled correctly for Grammatik to analyse the parts of speech accurately.)

Second, it assembles a group of words into a sentence and assigns a part of speech to each word. Parsing is a complex challenge for computer programmers because of the ambiguous nature of many English words.

Third, it examines the Rule Dictionaries for matching phrases in the sentence. It looks for commonly confused words such as 'affect' and 'effect'. If a match is found, it displays the suspect phrase in context or gives advice for correcting the problem.

Fourth, it looks for grammatical errors by using parsing rules. For example, when 'are' is used as an auxiliary verb, it should be followed by a present or past participle ('are going' or 'are gone') not by a present or past verb ('are go' or 'are went'). It looks for subject/verb agreement to detect a singular subject followed by plural verb or vice versa.

Fifth, it checks for mechanical errors such as incorrect punctuation, mixed capitals, doubled words, transposed letters, unbalanced pairs of parentheses and other common typographical errors.

Grammatik normally ignores section headings (which might otherwise be marked as sentences without verbs) but you can change this option. It also recognises several types of lists starting with numbers or with characters such as +, -, =, \* and >.

Sixth, while the proof reading process is going on, Grammatik collects statistics about the document and displays a summary after the interactive session. (If you wish, you can set the program to give just the statistics without the proof-reading.)



The summary shows the reading ease score (see below), the percentage of passive voice, the average sentence length, the average word length and the average paragraph length.

If you want to see more statistics, you can choose from a menu to see another window which shows far more detail.

These include the number of problems detected, the number of words, sentences and paragraphs, the average length of words, sentences and paragraphs, the number of prepositions, the number of sentences ending with a question mark or exclamation mark, the number of passive voice sentences, the number of long sentences (>40 words) and the number of short sentences (<10 words).

This window also shows the reading ease measured by the Flesch scoring system. The formula for the Flesch Reading Ease system is as follows:

1.015 multiplied by the average sentence length  
+0.846 multiplied by the number of syllables per 1000 words  
This total is then deducted from 206.835 to give the score.

The Flesch scale runs from 0 to 100. The higher the score, the easier the text is to read.

You can print out the summary window and the detailed statistics if you wish.

Grammatik also generates five comparison charts which you can view and print. It compares your document to three standards, namely, a compilation of Winston Churchill's speeches, an Ernest Hemingway short story and a Life Insurance Policy. (You can replace these standard works with your own comparison documents if you wish.)

The five bar charts show, respectively, the Flesch score, the average number of sentences per paragraph, the average number of words per sentence, the average number of letters per word and the prepositions as a percentage of the total number of words.

As a separate program, Grammatik offers a Word Profiler. This compiles a list of all the words in your document showing the number of times each word has been used. It then allows you to view and print

a list in alphabetical order or in order of frequency (either most frequent first or least frequent first). This is a very useful facility to check whether you are using some words too often.

Within the main program, you can ask Grammatik to compile a count of the number of times a specific writing problem occurs. You can count up to nine specified categories.

The spell checking dictionary contains 72,000 words but you can add more words if you wish. Initially, these are compiled as an extra list with up to 100 words but you can merge the list into the main dictionary and also remove words from it.

Grammatik offers very good help facilities whereas Sensible Grammar offers very limited help. In the interactive mode, the help facility is context sensitive so you don't have to search through the long list of topics. You can edit the help text to add more topics or to change the wording of existing topics. The Help Editor is a separate program.

Another separate program is the Rule Editor. This enables you to add and edit new rules and to make existing rules inactive. The procedure is not for novices but it is well described in the manual and could be worthwhile for wordsmiths. (It is much easier to modify Sensible Grammar's Phrase Files but this could give more false 'errors'.)

The Rules are organised into 43 rules classes such as archaic words, capitals, clichés, jargon, redundancies, split infinitives, commonly confused, number and verb agreement.

However, novices can tailor the program to meet most of their needs without using the Rule Editor. Grammatik offers a Preferences menu from which you can choose various options.

You can select one of six Writing Styles, namely, General (the default), Business, Technical, Fiction, Informal and Custom. The Informal style is the most forgiving of all. It is appropriate for casual correspondence and informal memos.

The Fiction style makes allowance for some artistic licence but it checks such items as commonly confused words. It checks against the Strict Rules and Standard Rules dictionaries but not the

Business Dictionary.

The Technical style is more strict but accepts technical words that would not be appropriate in Fiction. The Business style uses all of Grammatik's dictionaries. So does the General style but this accepts longer sentences than the Business style.

You can create your own Custom style by choosing other items from the Preferences menu to change the Rule Classes or the Rule Dictionaries. For example, if you don't mind split infinitives or if you want to accept Foreign Phrases, you can switch these rules off. You can also tell it to include headings in the analysis and you can change the long and short sentence lengths. There are many other options too.

The Preferences menu allows you to limit the types of files recognised in the Open File dialog box. By default, Grammatik recognises MacWrite 4.5 & II, Microsoft Word 3 & 4, Microsoft Works 1 & 2, WordPerfect 1, WriteNow 2, Rich Text Format and ASCII text files.

Finally the Preferences menu lets you change the screen colours from the Standard colour scheme to Black & White or Grey (spelled Gray even though this is the British version of Grammatik). There is no way to change the colours of the Standard version.

Your Custom Style can be saved in a Custom Preferences file. You could have several different Custom Preference files (with different names or in different folders). If you start up the program by clicking on a Custom Preferences icon instead of the main program icon, Grammatik uses your Custom Preferences rather than the default preferences. The Open Files dialog box then lists files that are in the same folder as the Custom Preferences file.

Grammatik is better than Sensible Grammar in many ways. You can edit any part of the text in the interactive mode whereas Sensible Grammar only allows you to mark or replace. Grammatik is not entirely foolproof but most of its shortcomings can be overcome by using the Rules Editor though this may not be worthwhile for some people.

Even with its faults, Grammatik could be a boon to all but the most experienced writers.

# AppleXtrasMac 11

## Mac Library

There are 18 new disks this month. Disk 434 AppleXtras Mac 11 contains communications terminals, utilities and games. Disk 435 is Show Disk 91 with the latest version of SCSI Probe, Floppy Fixer, two games and other programs. Disks 436, 437, 438 and 439 contain paint files of many interesting pictures. Disks 440 and 441 contain NCSA Telnet which provides interactive access from a Macintosh to telnet hosts on TCP/IP networks. It is an implementation of DARPA standard telnet. NCSA Telnet allows you to have simultaneous connections to numerous computers across the network. Disks 442, 443, 444 and 445 contain CAP, Columbia AppleTalk Package, which turns UNIX into a Mac file server. It has auto-install for most UNIX machines. Disks 446, 447 and 448 contain Oberon, a programming language by Niklaus Wirth featured in Byte earlier this year. It is an object oriented programming environment similar to Pascal which runs under System 6 (the System 7 version is on the way). Disk 449 contains MacMail (uupc), Disk 450 contains the Inside Mac Desk Accessory for information from Inside Macintosh volumes 1 to 4. Disk 451 contains the terminal program Miniterm. MacLibrary disks are available through

Shop2000 at £3.76 for a single disk or £32.90 for 10 disks.

### 436 Art Disk 7

Name
Books 1
Books 2
Books 3
Books 4
Butcher Shop
Carpet Bagger
CARTOUCHE
Classic Golfer
Cognitive
Death
DECORATIVE CORNER
DECORATIVE CORNER
Decorative Panel
Delivery Boy w/sign
Eagle & Snake
EAGLES
Farm animals 1
Farm Animals 2
Farm Animals 3
Farm Animals 4
FISH & REPTILES
FISH & SHRIMP
Flies
Gentleman Frog

### 437 Art Disk 8

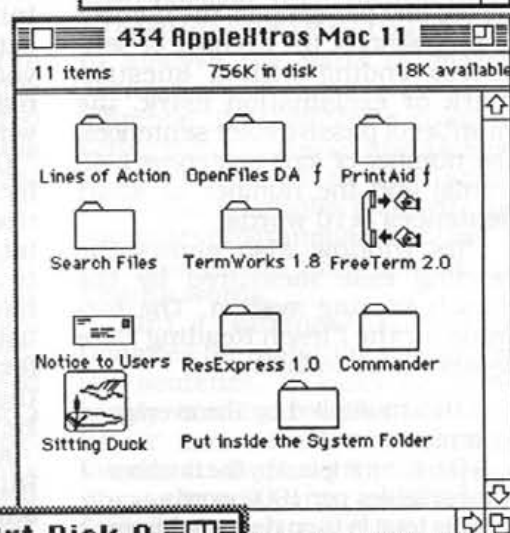
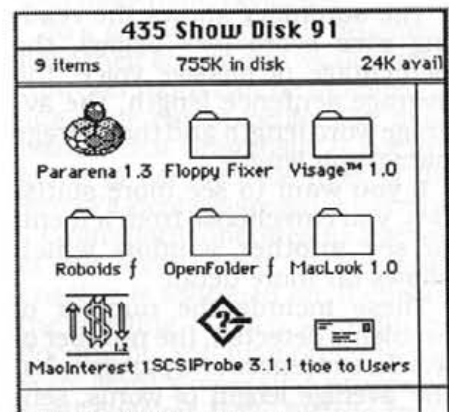
Name
Bookworm
Bugs 1
Bugs 2
Bugs 3
Carpetbagger
CAT
Classic People 1
Classic People 2
Curious Child
Japanese Art 1
Japanese Art 10
Japanese Art 2
Japanese Art 3
Japanese Art 4
Japanese Art 5
Japanese Art 6
Japanese Art 7
Japanese Art 8
Japanese Art 9
Japanese Frame
NAUTICAL STUFF
Notice to Users
octopus

### 438 Art Disk 9

Name
Couples 1
Couples 2
Couples 3
Couples 4
Cupid
DINOSAUR
Notice to Users
People 1
People 2
People 3
People 4
People 5
People 6
S.G.S. Nature
S.G.S. Nature
S.G.S. Nature
S.G.S. Nature
S.G.S. Nature
S.G.S. Nature
S.G.S. Nature
S.G.S. Nature

### 439 Art Disk 10

Name
Floral 1
Floral 2
Floral 3
Floral 4
Floral 5
Floral 6
Floral 7
Floral Motif
Flower
FLOWERS 1
FLOWERS 2
Gnome
Man & pipe
Man with moustache
Man with watch
Man Yelling
Notice to Users
Ornament 1
Ornament 10





# Mac Library

### 440 NCSA Telnet 2.3

9 items 674K in disk 106K available

NCSA Telnet 2.3 config.tel config.tel.ether

### 442 CAP5.0/1of4

4 items 667K in disk 118K available

README

### 441 NCSA Telnet (MacTCP)

10 items 763K in disk 17K available

MacTCP NCSA Telnet 2.3 -MacTCP-  
telnetpass MacTCP Prep config.tel  
Telnet 2.3docs bugs.2.3 changes.2.3

### 443 CAP5.0/2of4

4 items 720K in disk 66K available

### 444 CAP 3of 4(MacDump)

6 items 775K in disk 5K available

### 445 CAP 4of4

12 items 409K in disk 371K available

Messages Messages DA my ICON messages.1.1.shar  
tardis timelord.1.1.shar itice to Use Async AppleTalk  
atalkad.1.23 ALIX M8fire mgcmd UNIX printing

### 446 Oberon 1of 3

74 items 761K in disk 13K available

MacOberon 2.0 Agenda.Tool AlarmClock.Obj  
BoxFrames.Obj Automatic.Mod BoxBase.Obj  
Curves.Obj Compiler.Obj BoxPrtDvc.Obj

### 449 MacMail

11 items 592K in disk 182K available

MacMail mac uupc v2.1  
mail mail ff uupc ff  
(Support) Mac specific pcmail v2.1  
pcmail.c uupc Read me!

### 447 Oberon 2of3

57 items 743K in disk 30K available

MacOberonStarter Docotes.Obj Notes.Tool  
SCC.Obj MOPL.Obj MOPLa.Obj

### 448 Oberon 3of3

20 items 398K in disk 301K available

Write.Tool WriteDemo.Txt WriteFonts.Obj  
Texts.Obj Welcome.Txt WriteGuide.Txt  
Viewers.Obj Notice to Users WriteTools.Obj  
WriteReport.Txt WriteTexts.Obj WriteFrames.C  
WriteKeys.Obj WriteParos.Obj TickCounter.M  
TextBoxes.Obj TextFrames.Obj Write.Obj  
TTLO.Graph TTLO.Lib

### 450 Inside Mac

7 items 653K in disk

### 451 Miniterm

26 items 541K in disk 239K available

Short De Miniterm.ff #include "Typ clock.o CursorDialog.o  
MMIndex File.o initModem.o launch.o Minitalk.o  
Inside Ma Miniterm.make MiniTerm.r xmodem.o Miniterm.ff.rsro  
Manual printmodule.o processchar.o readme.txt Notice to Users  
Inside Ma Untitled VT100.o vt100font  
Notice to

# Darwin's Dilemma

## A review by Peter Kemp of a game from Inline Software.

It is, I suppose, a sign of the times to view a game of "only" 400K with suspicion. Bearing in mind this includes comprehensive sound and colour support, there would seem to be precious little room for creative code.

Fear not. Darwin's Dilemma from Inline Software just goes to show how wrong one can be. The game comes on a single 800K disk, together with a set of colour icons for those willing (or able) to use ResEdit. Suitable for every Macintosh from the 512K upwards, it can be played from the floppy, but I suggest you copy it to a hard disk for convenience. (The game isn't copy protected in any way — hurrah!)

The basic premise is very simple. By forcing primitive "life forms" to merge, more complex life forms can be made to evolve. The screen-shots show some of the different problems confronting the player, who has to place the "Darwin" icon next to a life form icon and then "bump" it — either horizontally or vertically. The life form icon will scoot off until either it collides with another icon or wraps round the screen and runs over Darwin. If the icons are unlike, that's the end of the matter. If they are similar, they merge. And once the proper number of similar icons have merged, a new life form evolves. (Bumping icons so they run over Darwin is careless, stupid and costs points. So don't do it.) A typical "family tree" is pictured, showing how many of each type of

icon are required to make the next one up the line.

As each screen is cleared and a new dominant life form appears,

the player is presented with the next level and new icons to manipulate. There are twenty five screens in all, ranging from the pretty simple to the fiendishly complex — this isn't a game that

can be played out in a couple of hours.

So what makes clearing a screen difficult? In a word — the way the icons are positioned. Remember that they can only be moved in straight lines (either up or across) and they don't stop moving until they collide with something. So to get a particular icon from *here* to *there* may require pushing it via one or more intermediate positions. But there's something in the way. So that has to be moved. But to move that, you'll need to

move something else first. And so on.

As with chess, this is a game of logic. To succeed, you must plan several moves ahead, keeping track of permutations within permutations. For those of us who don't have a brain the size of a planet, a limited number of "teleswaps" are available, which switch the positions of the Darwin icon and a (nominated) life form icon. This is the only way of breaking up blocks of dissimilar icons which have collided and formed an otherwise intractable lump. The player gets eight teleswaps to start with and an extra two for reaching each new level. Used with care, that's just

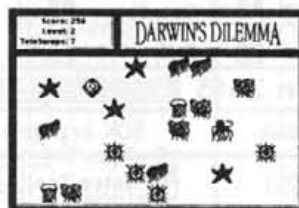
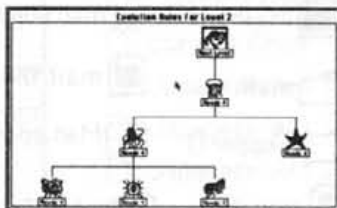
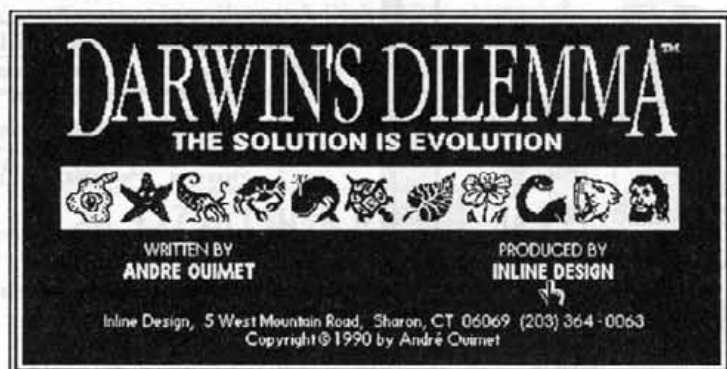
about sufficient to get to the upper levels of the game. (But for the first dozen games they won't last past the second level!)

This is a curious game — a completely new idea which has been executed with style and polish. Much of the time it's an interesting battle of wits between the player and the game designer, but there are one or two screens which (to me at

least) appear impossible without using an extraordinary number of teleswaps. No matter — you'll get plenty of practice honing your skills on the way to the twentieth level. I see it advertised in the USA at \$31 (£20) which seems a pretty fair price, but the current UK price is £29.

(Caveat: Make sure you get version 1.01 of the game if you're running under version 6.0.7 or later — including System 7. Using version 1.0 means turning the sound off — otherwise, my LC crashed within seconds. Inline Software answered my query on Compuserve with 24 hours, explained that the new sound drivers in 6.0.7 were to blame and offered to ship me version 1.01 directly. That's what I call good service!)

Product: Darwin's Dilemma  
Publisher: Inline Software  
Price: £29  
Available from:  
MacLine  
081 642 2222





# Realise v.1.06

## A review by David Durling of Realise from Perspective Design Ltd.

*Realise* is new and is British. It is based on an apparently tried and tested solid modelling engine, *SOLAR*, which is currently in use by several OEM's who have built their own applications on top of this engine running on several platforms other than Macintosh. For the technically minded, it is a boundary-representation modeller which models fully evaluated solid 'shells'.

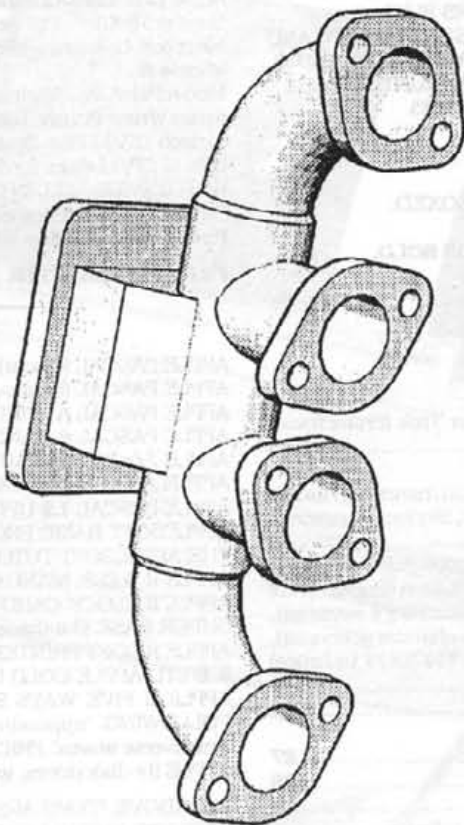
*Realise* comes with several basic shapes, but parts can also be orthographically drawn in 2D and then extruded, or forms may be manipulated by the use of lathes and other tools. Drawings produced in other applications can be imported in several different file formats.

It is always difficult to know just what applications like this will be used for: they are rather expensive toys for home use, yet are they capable of doing professional work? To answer the question, apart from testing *Realise* myself, I thought it would be useful to invite additional comment from a couple of design undergraduates at Leeds Polytechnic who are conversant with the use of *Swivel 3D*, a major competitor in this market. This is what we found.

The reference manual is fairly detailed at some 90 odd pages in length, and is laid out as a series of explanations of the various commands and menus, along with some simple drawings. It is not a tutorial however, and makes the assumption that the user is conversant with the terminology of solid modelling. A first time user would find this hard going, and there is not even an index to aid browsing. A 6 page handout accompanied the booklet explaining new features and

addenda.

A HyperCard stack is provided which aims to provide a general tutorial on modelling techniques and technology, however this is so



MANIFOLD.SXF

Created by MicroSolid© and imported into Realise, via Apple File Exchange, from MS-DOS. (Image scanned in from page 78 of the Realise manual, using an Apple Scanner.)

poorly developed that it is frustrating to use, and might have been better handled on paper.

The first thing that strikes you

when using *Realise* is that it is slow. Solid modelling always uses a great deal of processor power, and this package was expectedly unusable on an SE 2/20, but still proved painfully slow in rendering on an enhanced IICI. This is particularly noticeable when casting shadows, in contrast to *Swivel* which seems considerably faster in this respect.

One often talks of applications being 'Mac-like' - that is, being operable to some extent at an intuitive level. I particularly find difficulty with three-dimensional CAD packages in being able to sense where I stand in relation to the object: *Realise* is not intuitive in this way, for example, it has no adequate way of gauging where the eye level is in relation to the object, although it must be said that these are difficult concepts to get across on a two-dimensional screen. However, scale is handled competently, rather better than *Swivel*.

Designers often play the 'what-if?' game with forms, relationships of parts etc. and to be of real worth as a professional tool, a modeller should allow for this kind of user-model interaction. The lack of dynamic multiple views makes *Realise* tedious to use in this respect.

When the model has been constructed, there is a good choice of textures available, and these can be assigned to different parts of the model in various colours. If you are able to wait for it, high definition rendering of, say, glass is both realistic and impressive. The printing quality is good as well.

In summary, no doubt there are people who will find a place for this package on their hard disk. It does have powerful features but is not easy to use. I have reservations about its use in a professional sense, mainly due to lack of interactivity and slowness.

Realise Version 1.06  
Perspective Design Ltd.  
The Innovation Centre  
Cambridge Science Park  
Cambridge CB4 4GF  
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